# The Builder.

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## *Artisans' Wages at Home and Abroad.*

ALL parts of the civilised world are now brought into such close connexion by the advance of applied science that it becomes more and more important for each country to know the conditions of others, for unless we are acquainted with the facts relating to other nations it is impossible to form an opinion either on the progress or condition of Great Britain. The Foreign Labour Statistics, therefore—the second volume* of which is now published by the Board of Trade (why, by the way, are we not furnished with Colonial statistics?)—imperfect though they are at present, have a great deal of importance, for they enable us to form some kind of opinion on the state of labour in foreign countries. "Great caution," says Mr. Bateman in his introductory letter, "must be exercised in making comparisons between the figures for one country and another." This warning is true in regard to the comparison of most figures, but, bearing it in mind, we may at any rate come to some conclusions on the position of labour in foreign countries. It has also to be remembered that high wages or low wages are not always synonymous with the prosperity or the bad fortune of the artisan. The artisan who is best off is he who can obtain the greatest net return, or, it may be called, the most cash after paying for dwelling, food, and clothing.

Bearing these cautions in mind, let us take as far as is possible the earnings of bricklayers in foreign countries. Referring to these in the order in which they are given in the Board of Trade return, we find that a bricklayer and mason earns in Norway 4s. 3½d. per day; in Denmark, 4s. 1½d.; in Altona, the only place in the German Empire from which there is a return, 5s. 7d.; in Belgium (Brussels), 3½d. an hour; in France, 5s. 0½d. per day; in Switzerland, 3s. 5½d. It is somewhat surprising that the German statistics are so meagre, and in view not only of the spread of Socialism, but also having regard to the competition with this country, it would be most interesting and important to have fuller figures.

When we come to the United States we find a complete table, a table showing rates of wages which are startling. Thus in New York in 1898 the average daily wage of a bricklayer was 16s. 8d., of a mason 16s. 8d., and of a hod carrier 10s. In Philadelphia the same men earned 11s. 6½d., 11s. 5½d., and 8s. 4d. respectively. When we go further west to Chicago, we find the average earnings are for the first two classes 16s. 8d., for hod carriers 8s. 4d. It is pretty clear from the figures in these interesting tables that wages in the United States are to a large extent fluctuating and local, the higher rate in New York and Chicago as against Philadelphia and Baltimore being caused by a demand for bricklayers owing to constant and large building operations. But when we have these figures before us, it is clear why the United States absorbs all the best of our emigrants, since even the ordinary labourer—the hodman—can in New York earn the fine wages of 3*l.* a week, or 150*l.* a year. Though the cost of clothes and house rent is high in New York, it is not so extravagant as not to leave the workman in the United States with more money in his pocket at the end of a week after he has paid for the necessaries of life than in Great Britain; and in addition he has the use of a first-rate system of free public elementary education so that his children have as good a start as those of his employer, and he has likewise a vast and increasing supply of free public libraries, not regarded, as in this country, as burdens on the ratepayers, but as a necessary and desirable element in the social system. Let us add, too, that in every single city of the United States there is an abundance of cheap and quick means of locomotion, tramways radiating in every direction, and it is clear, so far as it is possible to judge, that in the United States at the present moment the lot of the artisan is extremely fortunate.

If we turn now to the English statistics—still observing the same trades—we may take the London district, which we may reasonably consider corresponds as nearly as may be with New York, because both are vast towns, in both there is a great growth of buildings, and in both house rent is high. In the London district then we find that in 1900 the standard rate of wages for a bricklayer was 10d. per hour for a week of fifty hours in summer—in other words, 2*l.* 1s. 8d. a week; or, in order to make the comparison with other countries more exact, and taking each day as of the same length, an average wage of 6s. 11¼d. per day, or, let us say, 7s. It would be extremely interesting to know, though this seems to be at present impossible, how much of the New York bricklayer's wages is expended in house-rent, but when we bear in mind that he receives more than double the wages of an English bricklayer, his position must be distinctly the better. The English artisan here has now free education, an addition to his pocket which has certainly in the last few years greatly improved his lot and taken—at any rate, from the prudent workman—a considerable load of anxiety, since, whether trade be bad or good, and employment be brisk or slow, his children can still receive their education. The hodman, who we suppose in England is classed under the head of labourer, in the London district is paid 7d. per hour, which for a week of fifty hours represents 27s. 6d. per week, or 4s. 7d. per week more than the bricklayer earns in Norway or Denmark, nearly as much as he receives in France, and a great deal less than he would earn on the other side of the Atlantic. But we must again repeat that mere cash receipts alone are not the sole element to be regarded, and there is always this in favour of the English workman, that, in spite of short winter days, the open winters of these islands render his lot more favourable, since the time for which he is thrown out of work is probably, on the average, less than in any other country, European or American.

* "Second Abstract of Foreign Labour Statistics." Board of Trade Labour Department. 1901.
"Report on the Standard Time Rates of Wages in the United Kingdom in 1900. With Comparative Tables." Board of Trade Labour Department. 1900.

Having taken the London rate, it is unnecessary to go into details as regards other centres, though we may note in passing that the rate, both in Liverpool and Birmingham, for bricklayers, is 9½d. per hour, and we take it that the chief factor in regulating wages is the cost of house rent, because clothes and provisions are pretty much the same all over the United Kingdom. If this be so, then we may also take it, so far as Europe is concerned, that the net receipts of a bricklayer do not greatly vary, but that in the United States the net receipts are, even allowing for much higher rate, certainly greater. When, however, we find that the average cash wages per week in the Midland Counties of an agricultural labourer in 1899 were 14s. 2½d., and that the same man, if strong and sober, could as a bricklayer's labourer in a town earn very nearly double that sum, and when we remember the various minor advantages of the towns, the numerous shops, the better education, the freedom and the amusements, we need not be surprised at what is called the rural exodus, which will not be stopped till the agricultural labourer can put into his pocket on a Saturday night as much net cash as a bricklayer's labourer in a town. The only surprising thing is that every able-bodied agricultural labourer who could manage to cross the Atlantic does not do so at once, and become a bricklayer's labourer in one of the upspringing cities of the States, where he would be in a more comfortable condition than any man in the same position is in any other part of the world.

But again we desire to caution our readers that they should remember that figures such as those in these official reports, while they "throw much light upon the movement of wages," should "be used only with a considerable degree of caution as tests of the average wages earned by the general body of workpeople." But mathematical certainty is impossible, and in default of this, it is certainly both interesting and instructive to endeavour to obtain by means of these statistics some kind of view — imperfect though it may be—of the financial, and so of the general, condition of one class of workmen in Europe and America; from which we may gain also some idea of the condition of other, and not less important, classes.

## WILLIAM AND MARY CHAPELS.

BESIDES shortcomings in the matters of stability, light, ventilation, and accommodation in the old meeting-houses erected by the earliest Nonconformists, the difficulty of access to the secluded sites chosen for them often resulted in resolutions to erect new buildings in more accessible positions. Hence, out of the thousand chapels computed to have been built after the passing of the Act legalising their erection, but few remain to us, the greater number having been rebuilt either on new sites or on the old ones. In one instance, at Alnwick, only the pewter alms-dish, dated 1689, of the original "meeting" remains in the new chapel built on its site.

We have, however, some examples. The William and Mary Chapel at Newbury was founded in 1697, and remains but little changed from its original form. The simple front is in three divisions, each terminating in a receding gable. On the ground floor there are two large windows with a mural tablet between them and a doorway on either side of them. On the upper floor are four double-light windows, oblong, plain, and uniform. Here for many years ministered Daniel Mace, who was the author of one of the earliest Greek and English New Testaments.

St. Nicholas's old meeting-house in Ipswich, built in 1700, is still in evidence. It has two doorways in the calm, staid frontage, and over each is an eye-shaped panel; between them are two rows of quadrangular diamond-paned windows, three in number; and over all rises a plain sloping roof. The framework is of timber covered with lath and plaster, and the floor is of brick, unless it has been disturbed recently. The pulpit is ornamented with carvings and twisted banisters. As we look upon this and the other placid interiors we can but think of their first congregations faltering in and taking their seats in confiding silence, flower-faced maidens (Puritan pansies, Poe called them), fair matrons, elders, and "white-haired traders" among them. Their costumes, the accents of their speech, the turn of their thoughts, are all matters of curiosity to us now; and the impress of their long-past presence has a peculiar charm.

One of the most interesting of these buildings left to us is at Knutsford, in Cheshire. Authorities differ as to whether it was this chapel or that at Dean's Row, or that at Macclesfield, to which Mrs. Gaskell referred in her story of Ruth, all three being of contemporary date. There are two sets of external stairs attached to the frontage, one at each extremity, and access to the ground floor of the chapel is gained through doorways in the walling that supports them. The diamond-paned windows have mullions and drip-stones, and impart a delightful old-world air; and foliage is not wanting to give an extra charm. Another interesting Cheshire example is in the county town. This is the chapel built for Matthew Henry. Some of the walling has been renewed and a new front built; but within, although his Commentaries may be no longer chained to the gallery as they used to be, we may see the same two lines of massive oaken pillars, and the same pulpit that was originally placed in it. The oaken gallery, too, is the same that was added when there was an influx of three hundred and fifty additional communicants, owing to the retirement of a contemporary minister, though the space below it was partitioned off many years ago to accommodate members who had seceded from the rest.

At Swarthmoor, among the fells and dales, there is a very pathetic little chapel. It is in a lane, and by the side of it is a small graveyard. Over the door is a stone inscribed "Ex dono G. F. 1688," thus intimating it was the gift of George Fox. It is but little more than a room, with whitewashed walls and a floor of blue flagstones. The seats are wooden forms, unpainted. But there is a small gallery, and the passage-way leading to it is supported by posts that are said, reverently, to be portions of the ebony four-post bedstead that once belonged to the donor. On a wooden desk, under glass, is a bible printed in 1541, which is open at the passage, "I am hevy and abashed, is there not tryacle at Gylyad?" It has a chain and padlock. This William and Mary edifice belonged to the Society of Friends. Pepys wrote, it will be remembered, in 1661, "I find that both here (Baldwick) and everywhere else that I come, the Quakers do still continue, and rather grow than lessen."

There is another early Nonconformist building with chained books still preserved in it at Lydgate, near Huddersfield. These volumes are Tillotson's sermons, and they are chained to a shelf under the Communion table. This chapel was originally constructed in 1695, partially rebuilt in 1768, furnished with a gallery in 1786, and with a turret in 1848. Its windows are long and narrow with semi-circular headings, like those Sir Christopher Wren designed for so many of the London churches after the Great Fire.

A William and Mary chapel at Ramsbottom is all the brighter for the associations that Charles Dickens gave to its frequenters, the brothers Grant, under the name of Cheeryble Brothers. Examples at Coventry, Leicester, and Hinckley are similar in style, plain and quadrangular. On a sundial built into the south wall of another of these fabrics at Blackley may be read the pith of many a searching of heart:—

> "My change is sure, it may be soon,
> Each hastening minute leads me on;
> The awful summons draweth nigh
> And every day I live to die. 1697."

Without long-drawn-out arcades of columns, "vapourous grey" or otherwise, with no carved angels in the roofs, no shadowy mouldings, no sculptured mysteries over the doorways, no geometric tracery in the windows, or painted glass, these buildings, with their touch with other times, their indomitable and strenuous continuance, are not without attraction for many minds. One in Nottingham has been altered five times, till it now has a thousand sittings. Another, less favoured, at Stamfordham, in Northumberland, has been turned into a stable; two in Pudding-chare, Newcastle-on-Tyne, and Berwick-on-Tweed into warehouses; one at Whitchurch, Salop, into a school.

We have a few meeting-houses still older than William and Mary's reign. At Horningsham there is one with the date 1566 on a tablet in the gable. To this building, says local tradition, came the Scottish Presbyterian masons, disciples of John Knox, who were engaged to build Longleat House for Sir John Thynne. They refused to attend the parish church, being probably the same stern and staunch sort of masons that Carlyle represents his father to have been, and they obtained a grant of this building, which sets forth that it is intended for the use of Protestant Dissenters. A condition was attached to the effect that the walls were not to be raised, and that the roof was to be thatched, in consequence of which stipulation the lowly, simple little place, with its hipped gables and three dormers lifting up the thatch, has been handed down intact. Tavistock Chapel is of a greater antiquity of another kind. When the Vicar of Tavistock was ejected, the Earl of Bedford made over to him the Abbot's Chapel of the monastery suppressed at the Reformation, which has continued in use ever since. Part of a Dominican friary is still used, too, by the Society of Friends at Bristol. At

Haslington, in Cheshire, the chapel of the ancient family of Vernon was licensed for a meeting-house in 1689. But the William and Mary chapels have an interest more distinctly their own, and quite worthy of survey.

## NOTES.

Liverpool Cathedral.

IN Wednesday's *Times* Mr. Reginald Blomfield wrote an excellent letter on the subject of the absurd demand for a Liverpool cathedral in the Gothic style. How much chance he has of getting the Committee to understand him is obvious from the answer which he has elicited from Mr. Robert Gladstone in Thursday's *Times*; one of the most amusing things we have read for some time, much more so than its writer has any idea of. Mr. Gladstone totally fails even to understand Mr. Blomfield's argument, but assures us that he has been a student of architecture for forty years; "he has not forgotten that the early Christians converted the available basilicas into churches," nor is he ignorant of the rise and fall of Gothic architecture: "how it emerged from the clumsy grandeur of Norman, attained its most sublime beauty during the 100 years to which I referred, and then by the elaboration of pretty details it gradually deteriorated until architects in despair called in the more sturdy accessories of the Grecian and Roman orders to revivify their expiring art;" and as Sir Gilbert Scott pointed out to the Institute of Architects the beauties of Westminster Abbey, can we do better than imitate that? &c., &c. In short, Mr. Gladstone is just where architectural amateurs were half a century ago; repeating the old formulæ and the old superstitions of the Gothic revival, as if the world had not moved since then. It is hopeless; but it is certainly amusing. He should, however, at all events, look up his facts about the basilicas; he will find they are out of date.

Giggleswick School Chapel.

IN reference to a passing remark in our report on the new chapel at Giggleswick school last week, to the effect that an octagonal dome is not constructionally a dome in the proper sense of the word, Mr. T. G. Jackson writes to say that the Giggleswick dome is constructionally a true dome, with a circular plan on the interior lines, and is only modelled into an octagonal plan on the exterior. Our remark was not intended exactly as a criticism, but merely as drawing attention to the fact that a structurally octagonal dome, however you may call it a dome, is under quite different statical conditions from a true dome; and the exterior view of the chapel which was exhibited at the Royal Academy, and subsequently, by the architect's consent, published in our pages, gave us the impression that this was an ordinary octagon cupola, as it appears so externally. The object of the treatment of course is to harmonise the cupola externally with the general lines of the architecture, which are Gothic in feeling, though Gothic of a very free type. The experiment is an interesting one, and was perhaps worth making, though it has the drawback of making the exterior of the cupola a contradiction of the interior. The moral is, perhaps, that you cannot harmonise a spherical dome with the prevalent line and feeling of Gothic architecture. But as an architectural feature the octagonal cupola is an object far inferior in beauty and impressiveness to the true spherical dome.

Trees in Whitehall.

IT is a matter for regret that the Works Committee of the Westminster Corporation have not seen their way to recommend the planting of trees in Whitehall. But the reasons given seem to put an end to the possibility. It is said that the roadway is so cellared under and so full of pipes that it is impossible to plant trees in this thoroughfare. This is a little surprising, because we should not have supposed that Whitehall was more largely "undermined" than some other thoroughfares where trees are planted. The public must, however, acquiesce in these reasons with their present knowledge. We trust, however, that the Westminster Corporation will look further into this matter and seek for other places where trees could be planted, as, for example, in Waterloo-place, if that be within their jurisdiction. As we recently pointed out, there are many open spaces in London which would be greatly improved in effect if trees were planted in them. Why, we may ask, should not trees be planted in the forecourt of the British Museum? They are doing well in Great Russell-street.

The Westminster Paving Contract.

WE welcome the criticism of the Westminster ratepayers upon the circumstance of the paving contract for that borough, because it is only by reason of an interest being taken in municipal affairs by the general body of citizens that their representatives can be kept up to the mark. But at the interview of the deputation of ratepayers with the Works Committee last week the former were much too vague in their charges—vague, that is, because their case clearly rested rather on suspicion than on proved facts. The point that the paving blocks were bad seemed to be entirely disproved by independent evidence. It is true that the Committee had also the evidence of an expert, but on the facts as published his opinion would seem to be erroneous. But the Westminster Corporation seem only to have themselves to thank for the creation of these suspicions. It appears that they admitted that though some tenders were rejected because they were not in accord with the specifications, yet that the tender of the Improved Wood Pavement Company was accepted although that company was not prepared to supply blocks as specified. The moment a public body departs from the proper and straightforward course of rejecting all tenders which are not in accordance with the specifications and accepting one that is not, at that moment suspicion of underhand dealing is aroused, and such facts as close intimacy between the contractor and an official of the corporation appear to suggest some form of conspiracy. The old saying, that Cæsar's wife should be above suspicion, is peculiarly applicable to the contracts of corporations, which should always be carried out even with an excess of purity. That being so, there can be no doubt that the public discussion and investigation of the Westminster Paving Contract is wholly to the public advantage.

Mr. Pullman on London Traffic.

MR. PULLMAN, whose name may be said now to be a household word among railway travellers, is, after a lapse of twenty-five years, paying another visit to this country, and has addressed an interesting letter to the *Times* on the subject of the traffic of London. He finds London in as bad if not a worse condition than it was a quarter of a century ago. Many imperfections in the system there no doubt are, but it is impossible to doubt that in many respects it is improved. We have only to look, for example, at the outsides of the omnibuses. But there is one point which Mr. Pullman makes which is worthy of the closest attention, namely, the necessity for a central body to control the London streets. We cannot doubt that the divided authority of the various local bodies over the streets is very injurious to the public interest. It would be an immense gain if the sole highway authority for London were the County Council. The cost of administration would be less because there would not be so many officials, and there would be no clashing of rival authorities. At present one end of a street which belongs to one municipality is well lighted; the other which belongs to another is in darkness. But with the present Government in power we fear that it is hopeless to work for this necessary reform, though some day it will certainly come to pass. The whole question, indeed, of the jurisdictions over London streets and the powers of companies to pull them up requires investigation, and we commend the matter to the attention of Mr. Ritchie, the Home Secretary, who is the man of business of the Cabinet.

Apprenticeship and Technical Education.

IT is satisfactory to note a really useful step being taken towards the union of practical and theoretical training for the artisan. For this is the object of the circular issued by the Plumbers' Company and representatives of various important local bodies. Apprenticeship alone can only teach by experience, though here and there there may be a master who will give explanations. But apprenticeship *plus* purely educational teaching gives the two desiderata. The means suggested by the Plumbers' Company's power of indenture are—attendance at classes as one of the conditions of the contract of apprenticeship, and the cancellation of the articles if the apprentice fails in an examination. But it is clear that, in order that such a scheme should have full results, there must be a complete system of registration of plumbers, or, indeed, of any other artisans, and that only those who are registered should be eligible for important work. If a doctor could practise whether or not he passed the necessary examinations, we should have plenty of unqualified practitioners, and there must always be a number of these men in every trade until efficiency obtains its proper recognition; but it is impossible to confine a trade merely to those who have been pronounced to be competent by examination, however desirable it may be that only those who are efficient should be employed.

Electric Meters.

SEVERAL electric lighting companies who test their own meters are in the habit of marking them in such a way that consumers are misled into thinking that they have been tested by an independent authority. This seems to us a very objectionable practice, and we should have thought that it would be sufficient to draw the attention of the Board of Trade to it to have it at once

stopped. From the Report submitted last week by the Highways Committee to the London County Council it appears that the Board o Trade regards this practice with great complacency. It considers that the time has not yet arrived for compulsory legislation in the matter owing to the very limited number of types of meter which it has officially sanctioned. This seems to us an extraordinary reason to give. Are we to infer that nearly every type of electric meter is bad, and that, therefore, it is of little consequence what stamp, official or otherwise, is put on it? It was the original intention of the orders granted to electric lighting companies in London that the County Council should duly certify and stamp approved types of electric meters. The Board of Trade standardising laboratory has been in existence for some ten years, and we have often heard complaints from manufacturers of the length of time which elapses before they hear whether their meters, are approved or not. It seems to us that the Board of Trade might very well be content with somewhat less severe tests, and that an accuracy which more than satisfies the standards insisted on by many countries abroad, where electricity is much more extensively employed than in this country, ought to satisfy them. The consumer has a right to have a meter tested by the County Council, and the supply companies, by stamping their own meters, are deceiving the public. The Board of Trade informed the Highways Committee that as the question is one which affects electricity supply generally and not London alone, the expediency of the Council taking action in the matter is doubtful. "Expediency" is a somewhat low standard for an official department to adopt. What dreadful thing would happen if the suspicious practices of a few of the London supply companies were stopped? The supply companies, remembering the ease with which the Board of Trade allowed them to raise the pressure of their supply, must be beginning to look upon it as their natural protector from the London County Council, which acts in what it believes to be the interests of the public.

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**The Light from Alternating Current Lamps.**

So far as the eye can judge, the light coming from glow lamps supplied from ordinary direct or alternating current circuits is the same. A very simple experiment will, however, show that there is a notable difference between the two. Take a round disc of cardboard and divide it up into white and black sectors alternately. Fix it on the top of a cork in the lower end of which is stuck a wooden match with a sharp end, thus forming a kind of teetotum. On spinning it round the top of the disc will appear of a uniform grey colour. If it is now illuminated by light coming from an alternating current lamp, preferably one of low candle power, at a particular speed, the sectors will appear to rotate rapidly; they will then slow down until they appear stationary, and after rotating in the opposite direction, will finally disappear, and the disc appear uniformly grey, as it did at the start. This proves conclusively that the filament of the lamp varies in brightness with the frequency of the alternating current, It is well known to electricians that the light from an arc lamp supplied by alternating currents behaves in a similar manner, and it has been used in practice to tell when a dynamo has reached the same speed as the other dynamos in the central station. the spokes of the fly-wheel dynamo illuminated by the light from the station arc lamps appearing stationary when its speed is the same as the other machines. In a remarkable paper recently read by M. Hospitalier to the Société Internationale des Electriciens he describes numerous applications of these stroboscopic methods to the study of the main phenomena of alternating currents, and he exhibited a series of new and useful instruments founded on these methods. By means of one of them, the "Arcoscope," he throws the image of an alternating current arc on a screen and makes it go through all its periodic variations slowly, which in reality it does in the hundredth part of a second. Other ingenious practical instruments he has devised are one which accurately records in ink a curve showing all the variations of the current during the hundredth part of a second, and another entirely novel one showing how the power given out by the dynamo is continually varying, and how during a minute fraction of a second it is actually negative, thus showing that the circuit restores to the dynamo a fraction of the work it receives. These instruments, though designed primarily to help electrical engineers in their every-day work, are obviously of great educational value, and doubtless the coming generation will wonder at the ignorance of vital points in practical theory displayed by electricians at the end of the nineteenth century.

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**Old Sites and New Buildings, Shepherdess-walk.**

A new police station, erected after the designs of Mr. J. Dixon Butler, architect to the Receiver for the Metropolitan Police District, and accommodating thirty-four constables, has been recently opened in Shepherdess-walk, Hoxton. The new buildings stand on the sites of the Eagle Tavern and the Grecian Theatre, formerly Day's Saloon, which, after many vicissitudes of fortune, was pulled down in the winter of 1899-1900. The Eagle Tavern had been erected on the site of the Shepherd and Shepherdess tea-gardens, near Wenlock Barn — cited in "The Picture of London for 1803." In 1841 Thomas Rouse built the adjoining theatre, which was reconstructed and enlarged for Benjamin Conquest seventeen years afterwards. His son, George Conquest, in 1866-7, built a larger playhouse—having a total capacity for more than 4,000 persons—with a stage, including the scene-dock, 60 ft. in depth. The site of the dancing-hall was taken for the new theatre, built by John Garrud, of Spitalfields, contractor, from J. T. Robinson's plans and designs, of which we published the interior view, with a plan, on November 3, 1877. In August, 1882, the premises were leased to the Salvation Army. Three years ago the Charity Commissioners framed a scheme in respect of the Bishopsgate Foundation Charity for the grant of building leases of the Eagle Tavern, the site of the Grecian Theatre, six almshouses, and some adjacent property fronting Nile-street and Shepherdess-walk, at annual rents amounting to 3,500*l.*, the lessee being required to expend in building a sum to yield a rack rental of 17,500*l.* per annum. An Act passed in March, 1898, empowered the Receiver of Police, by an order of the Secretary of State, to acquire a portion, 39,076 sq. ft., of the property, for a ground rent apportioned at 895*l.* per annum. The then lessee under the Commissioners claimed a large sum, varying from 16,000*l.* to 21,000*l.* The matter was referred to arbitration, and in the result Mr. Balfour Browne, K.C., as umpire, assessed the value of the police-station site at 8,375*l.*

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**St. Dunstan's Church, Stepney.**

The old parish church of Stepney, to which the fire of last Saturday morning did so much damage, had been reopened on December 7, 1899, having been closed during nine months for some extensive repairs and alterations, carried out by Messrs. Dove Brothers, under the directions and superintendence of Messrs. J. E. K. & J. P. Cutts, at a cost of 5,427*l.* The repairs included the reflooring, reseating, and removal of the galleries, and the organ (by Bryceson, 1872) was rebuilt and enlarged. The church was restored in 1847 by Benjamin Ferrey, and in 1872 by Arthur Shean Newman and Arthur Billing. The fire, which it is conjectured originated in the heating apparatus, has consumed the vestry, the organ and organ loft, and the greater portion of the nave roof. Other parts of the fabric, together with the great east window, have suffered considerable damage by heat, smoke, water, and breakage, but the monuments escaped from injury. The church was rebuilt in the later half of the fifteenth century, its predecessor having been erected, says Matthew Paris, by Archbishop Dunstan in place of one that had been dedicated to All Saints. After Dunstan's death and canonisation, his church was re-dedicated in his name. Hatton records (1708) that a west porch was added in 1612. The fabric is of stone and flint, with a low buttressed tower and embattled parapets. As some of the insurance (11,000*l.*) on the church is unavailable for the injuries to the fabric, it s expected that more than 2,000*l.* will be irequired, over and above the insurance, to make them good.

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**The London Sketch Club.**

We were at first under the impression that the seventh exhibition of the London Sketch Club, now open at 175, Bond-street, was a distinct advance on its predecessors; but it seems rather that the best works have been hung among the earlier numbers of the catalogue. Mr. Lenfesty's "Storm" (1) and "The Bridge" (7), are very fine examples of broad and powerful sketching of open air effect and wild skies; and Mr. Lionel Edwardes's two studies of horses (4, 12) are admirable in their kind. There is rather a decrescendo as we get further on. Mr. Clifford's "The Village by Moonlight" (28) is a very good piece of light effect, but rather too obviously imitated from Mr. Thaulow. "A Breezy Day" (51), by Mr. Walter Fowler, a kind of De Koening landscape effect, is powerful; Mr. Wadham's "Gorseland" (66) and Mr. Lenfesty's "Bosham" (69), and Mr. Champion Jones's "Slaughden" (70) are broad free sketches; Mr. Frank Jackson has a good study of local personages and colour in "Market Place, Etaples" (71), and Mr. Fitzgerald's "The Assassin" (83) looks the part. In Mr. H. T. Clifford's small sketch of "St. Paul's" (114) the circular lines of the dome are in true perspective (which we seldom see in a picture); in Mr. Lauder's "St. Paul's from the Boro'" (149) the build-

ing is not upright; and his sketch of "The Westminster Memorial" (39) the column is not only not straight but far too thin in proportion to its height. It is curious how painters will misrepresent the proportions of architecture even with the object itself before them.

## THE ARCHITECTURAL ASSOCIATION:

### ANNUAL GENERAL MEETING.

THE annual general meeting of this Association (the first meeting for the session 1901-1902) was held on Friday evening last week in the meeting-room of the Royal Institute of British Architects, No. 9, Conduit-street, Regent-street, Mr. W. H. Seth-Smith, President, in the chair.

*The Annual Report and Balance sheet.*

The minutes of last meeting having been read and confirmed,

Mr. E. W. Mountford proposed the adoption of the Report and balance-sheet of the committee. The Report states that the fifty-fourth session, which terminated on May 31 last, has been a prosperous one in every respect. The membership shows a substantial increase, and financially the session has been a great improvement over previous years. One hundred and sixteen new members were elected, six were reinstated, and the losses by death, resignation, and other causes amounted to thirty-seven, the total membership on the last day of the session being 1,376. In reference to the newly-formed day classes, the committee trusts that architects will support them by aiding their pupils to attend the studio and lectures during their pupilage. The Premises Sub-Committee has come to the conclusion that it is impossible to take advantage of any desirable building sites that may offer themselves until a substantial premises fund has been formed. It is therefore proposed to take steps towards that end.

Mr. Mountford, in proposing the adoption of the Report and balance-sheet, said that for the first time they were able to congratulate themselves on having an excess of income over expenditure, there being something like 500*l.* to the good. That was very satisfactory, and had all the members paid their subscriptions, the result would have been even better.

Mr. F. T. Baggallay formally seconded the motion, which was then agreed to.

The Chairman said he had great pleasure in proposing a hearty vote of thanks to the Royal Institute of British Architects for its tenth grant of 100*l.* towards the educational work of the Association. The money had been of very valuable assistance in the past, and he did not know how the work would have been carried on but for the help of the Institute. It was just as useful now as ever it was—perhaps more so, seeing the heavy financial responsibility they had undertaken.

The motion having been heartily agreed to,

The Chairman proposed a hearty vote of thanks to Mrs. Arther Cates for having presented to the library a handsome donation of books left by her late husband. It was one of the very best donations that had ever been made to the Association. He believed that Mrs. Cates intended to present them with a handsome book-case to hold the books.

The vote of thanks having been carried by acclamation, a vote of condolence was, on the motion of the Chairman, passed to the relatives of the late Mr. James Brooks. Mr. Brooks was well known by his works, which all admired; they were thoroughly English and good.

Messrs. F. R. Herring and F. H. Swinyard were then elected members, and it was announced that there were fifty-one nominations.

Mr. R. S. Balfour, hon. secretary, announced the following donations to the library:—A collection of about twenty books, presented by Mrs. Brydon; the Annual Report of the Smithsonian Institute; "Designing Ironwork," presented by Professor Henry Adams; "The Architecture of Coriolanus," presented by Mr. R. Phené Spiers; "Greek and Roman Orders" (by Mr. G. E. Mitchell), presented by the publisher, Mr. B. T. Batsford; "Early Renaissance Architecture in England" (by Mr. J. A. Gotch), presented by the publisher, Mr. B. T. Batsford.

A vote of thanks having been passed to the donors,

On the motion of Mr. Balfour, a vote of thanks was accorded to Mr. Edmund Sharpe and his brothers and sisters for a collection of diagrams belonging to the late Edmund Sharpe, for use in the day school, and to Mr. R. Phené Spiers for obtaining them.

Mr. H. P. G. Maule, hon. secretary, read letters expressing inability of the writers to be present that evening from the President of the Institute, Mr. Wm. Emerson, and Mr. G. H. Fellowes-Prynne.

The Chairman then delivered the prizes and studentships for session 1900-1901:—

A. A. Travelling Studentship, value 25*l.*, and silver medal, Mr. J. E. Forbes; second prize, value 5*l.*, Mr. L. G. Detmar; A. A. Medal, value 10*l.* 10s., Mr. G. Drysdale; Banister Fletcher Bursary, value twenty-five guineas, and medal, Mr. T. F. Green; Hon. Mention, Mr. A. C. Bossom; Andrew Oliver Prize, value 5*l.* 5s., D. Anderson, R. E. Stewardson (prize divided), *æq.*; Architectural Union Company's Prize, not awarded; Essay Prize, Mr. G. H. Lovegrove.

*Lectures. Division 1.*—Mr. E. Gunn, A. A. Scholarship, value 4*l.* 4s.; Mr. H. E. Rider, Prize, value 1*l.* 1s.

*Lectures. Division 2.* — Mr. L. W. Ensor, Prize, value 2*l.* 2s.

*Studio, Division 1 (Construction).*—Mr. D. W. Stewart, Prize, value 10s. 6d.

*Studio, Division 2 (Time Sketches).*—Mr. C. M. Crickmer, Prize, value 10s. 6d.

*Book Prizes.—Lectures. Division 1: Greek and Roman Orders.*—Mr. E. Gunn.

*Elementary Construction.*—Mr. H. E. Rider.

*English Architecture.*—Mr. E. Gunn.

*Mediæval and Renaissance Architecture.*—Mr. H. F. Tasker.

*Elementary Physics, Formulæ, and Calculations.*—Mr. D. Anderson.

*Plane and Solid Geometry.*—Mr. E. G. Allen.

*Lectures. Division 2: Materials, their Nature and Application.*—Mr. H. Greenly.

*Construction.*—Mr. L. W. Ensor.

*Drainage and Water Supply.*—Mr. L. W. Ensor, Mr. H. Greenly.

*Ventilation, Lighting, and Heating.*—Mr. L. W. Ensor.

*Mensuration, Land Surveying and Levelling.*—Mr. L. W. Ensor.

*Elementary Class of Design.*—Prize, value 3*l.* 3s., and Bronze Medal, Mr. E. G. Theakston; Certificate, H. Hyams, R. E. Stewardson, A. E. R. Gill, W. C. Le Maitre.

*Advanced Class of Design.*—Prize, value 5*l.* 5s., and Bronze Medal and Pass for Modelling Class, Mr. A. Wingate; Certificate and Bronze Medal and Pass for Modelling Class, Mr. A. Durst; Pass for Modelling Class, A. A. Carter and E. Brantwood Muff.

The Chairman announced that the conversazione would be held on the 25th inst at the Royal Institute of Painters in Water Colours, Piccadilly, W., where the Exhibition of International Art was being held.

*The President's Address.*

The following address was then delivered by the Chairman:—

In doing me the honour of calling me to preside over your interests for a second year, you have imposed upon me the difficult duty of having to address you a second time. To prepare a statement of general principles and of one's own views on various points connected with our art and our profession is a task easy of accomplishment as compared with that of choosing a subject sufficiently interesting to form the keynote of another essay. Not that ours is so prosaic a calling as to be lacking in questions of importance; on the contrary, I suppose there is no other profession which gives birth to so many interesting controversies. But as we are an eminently business-like society, I propose this year to be more directly practical, reviewing our recent work and sketching what I conceive to be the policy of the A.A. in the immediate future.

During the past session we have had to say farewell to the nineteenth century, and simultaneously to the longest reign and to the greatest and best Sovereign that ever occupied the throne of this nation; one who for sixty-three years ruled us with wisdom and personal virtue. Two such events would mark any year as memorable.

As regards our own affairs, it has been a session of unparalleled prosperity, clouded only by the losses we have sustained by death, which has claimed eight of our members in the twelve months, and we know we have just sustained another loss in the death of Mr. James Brooks. But some men there are whose passing leaves a great void, alters in fact for a time the whole complexion of things. Such men were John McKean Brydon, Arthur Cates, and William Young. The first formally joined us only recently, the last was not a member, but all were warm supporters of our work. We can pay them no higher tribute than to say they possessed that admiration and trust to which their professional attainments as well as their personal goodness entitled them. Brydon was especially one of those who win all hearts. By his death many of us have lost a dear friend. Mr. Cates became a member in 1847, and was hon. secretary in 1852 and 1853, so that his interest in this Association covers more than half a century, and that interest was as direct and influential at the end as in the beginning, for at the time of his death he was a most active member of both the Education and the Premises Committees.

Success has attended all departments of our work. We have added 116 new names to our membership roll, besides reinstating six others, and our financial position at the close of the year has been the best on record.

The "Sketch Book," which for thirty-five years has figured so largely in connexion with the work of this Association, but has been hitherto run by an independent committee, with our indefatigable members, Messrs. William G. B. Lewis, William A. Pite as editors, and Mr. Edgar H. Selby as treasurer and secretary, has, at the request of these gentlemen, been taken over by the General Committee. In recording our debt of gratitude to those who have conducted it so long and so ably, and whose services we are fortunate enough to retain for the most part, I am sure you will agree that under the direct supervision of the General Committee such a periodical ought to become a very valuable property. May I urge members to endorse the Committee's action by supporting it, either as authors of plates or as subscribers?

The past history of this Association is a history of education. In accordance with its traditions we have, during the session just closed, tried to meet the demands of the profession and of the public for better education as far as those demands can safely be ascertained by a careful review of art feeling in the community, and the growing sense in the profession that with us lies in great measure the responsibility for raising public taste in building. This sense of the beautiful can only grow as it is nurtured by observing the objects of beauty it is our function to create. You have, after mature consideration, added to the curricula a day school, and with its opening next week we enter upon a course entailing increased responsibility upon this Association. You are probably all conversant with the general principle of which this school is the outcome, namely, that if a young man is not to waste his employer's and his own time it cannot possibly be a good thing that he should be plunged into a busy office without some preliminary training. It is difficult to imagine on what grounds such a principle can be objected to. We are happy in having secured the services of Mr. Arthur Bolton as head master of this school. In his hands it is sure to grow and prosper as the evening studio has done under Mr. Lewis' direction. We feel satisfied it will receive the encouragement of the profession. Success depends on this. I would urge young men whose bent is towards architecture to enter this school, either directly or by agreement with the principals to whom they may wish to be articled. I believe most principals of standing will be found willing to give such pupils as may be unable to attend the evening school facilities for attendance, if not regularly, at any rate for two or three terms at stated hours for certain courses they particularly need. Such an arrangement will be as advantageous to them as to their pupils, while those whose minds are not fully committed to this line in life will, by entering the school, have an opportunity of reconsidering their decision in the light of experience.

The *Times*, in a recent article on "The Organisation of University Education in the Metropolis," made the following remark:—"Beyond one or two courses of professional lectures, London has nothing in the nature of a school of architecture. It contains far more architects than any other city in the world and annually adds a larger quota to the profession than any other centre. But it leaves them to pick up their art in the old-fashioned way and makes no organised attempt to provide modern

instruction. The result is, whether on the constructive or artistic side, we lag far behind the United States, France, and Germany." The last statement is true, but we may be pardoned for expressing mild surprise that the *Times* correspondent is not better informed as to the opportunities of obtaining a systematic training which this Association presents.

In no better way than by mingling socially and educationally as they do here with a body of enthusiastic fellow students and practising architects can men become emulous of the highest excellence. Nor indeed can they ascertain their own true level except by thus comparing themselves with those less, or more, gifted. All this gives a unique value to our Association as a training ground ; and more than this, the control and direction of its educational scheme is in the hands of an executive representing, in due proportion, the enthusiasm and aspiration of the *youth* of the profession not less than the experience of men who have seen considerable practice. Our list of visitors to the School of Design shows that the best London architects are giving their valuable time in teaching us, while our new Advisory Council contains the names of nearly all the architect members of the Royal Academies of the United Kingdom.

A word here to our students in both evening and day schools. The Committee too often observe a desire to go up for the Royal Institute of British Architects' examination after only a few months' direct preparation. This means cramming ; cramming means working at high pressure, and high pressure, as surely as a neglected education, spells *failure ;* not perhaps in passing the formal test, but in practical success in after life, which every student will admit is the real goal of professional education, though he may not have grasped the logical conclusion of that admission. The Architectural Association will, I hope, never be a party to this sort of thing. You must go elsewhere if you want it. It is not education at all. Passing the examination will make a man neither a skilled draughtsman nor a good builder ; but if he masters these essentials his success is assured, and they can only be attained by a long and patient course of work, systematised as carefully as it has been by this Association. Above all things believe that no system, however complete, can *teach* you architecture ; at its best it can but provide conditions suited to work, and teach you where and how to learn. Your education, viz., your mental development, will be the result of your effort to apply the information offered and to work it out for yourselves.

If the diploma (membership) is sought merely as the Institute's assurance to the world that you have had such a systematic training, as a guide to the subjects which it is necessary to know, and as an incentive to work at them, surely nothing but good can come of the examination which qualifies for that diploma. Let Emerson's testimony to our national character, written fifty years ago, inspire us to-day. In England, he says, "Every man is trained to some one art or detail and aims at perfection in that, not content unless he has something in which he surpasses all other men. He would rather not do anything at all than not do it well. I suppose no other people have such thoroughness."

As our art has a technical basis, this Association, if it is to become the educational power it aims to be, must act upon the universally admitted dictum so well expressed recently by Sir John Gorst, that technical instruction cannot possibly be assimilated by a student unless a proper foundation has previously been laid by a thorough grounding of elementary and secondary instruction. Surely this is also true of art. The more thorough an artist's general education, the more alert will be his mind in all directions and the more rapidly will he appropriate and assimilate the special knowledge needed to fit him for his chosen life-work. I therefore hope that the Committee will before long see their way to make admission to this day school conditional upon passing the Royal Institute of British Architects' preliminary examination or its exempting qualifications. And what is true of a broad grounding in general education in youth is equally true of early professional training. You must not specialise until you have some knowledge of every subject essential to the practice of every ordinary architect. The Association has been most careful not to introduce into its curricula any subject which does not come under this category. We might just as reasonably continue to educate our youth in the old style as attempt to convey the Metropolitan water supply in the good old wooden pipes we have just removed from the adjoining street.

Perhaps the most striking contribution during the past year to the discussion of this great question was Professor W. R. Lethaby's paper read before the Royal Institute of British Architects, entitled "Education in Building." It is an able history of the conditions under which architecture was carried on in the Middle Ages and up to the time of the Renaissance. He exhorts us by every means within our reach to encourage a high standard of practical excellence on the part of our executants (the British workmen), and to see to it that we ourselves not only understand building construction as the ABC of our profession, but that we endeavour to bring about a more co-operative spirit as between architect, builder, and mechanic. I hope all will read his delightful paper. But even supposing the buildings of those times were not under the control of a "magister" who designed and commanded, but were the creation of an "operator ipse magister," as contended by Professor Lethaby, he appears to us to under-rate the effects of the vast social and educational change the whole community has undergone since the days of which he writes and the impossibility of adjusting the old customs to modern requirements. Then it was only the King, the clergy, and the nobility who were patrons of the building art. We now have a very numerous and educated upper middle class who can afford to build. Their travelling and knowledge makes them critics in the matters of art, and anxious to imitate the ancient work they have seen.

All this has resulted in a demand that those they employ to design and direct their projects shall be of their own class ; shall know more than they themselves of the history and structure of these admirable works of old ; and shall build with an approximation to the same feeling ; shall, in fact, be scientific where they are dilettante. Professionalism is the expression of this demand for a high standard of training. Professional men, including those whose function is design and draughtsmanship, have come to stay. They form a large section of the upper middle class, and they are largely employed, not only by those of their own and of higher social status, but also by the numerous bodies representative of all classes alike who prefer to be advised (in carrying out complicated architectural problems unknown to mediævalists) by men who have been thoroughly trained, through long years and at great cost, in the art of planning and in the knowledge of building construction, rather than by mechanics, whose blunders, inevitable where several trades are working without a general superintendent, would not be tolerated in these days of scientific method and exactitude.

It is a fault in our training that our pupils are not on the works enough, and that we do not specialise enough. Highly-trained men, with a diploma from a guild or an institute or what not, ought really, if our building is to be of our best, to confine themselves to design and the supervision of building construction, and not to meddle with surveying, valuations and dilapidations, bills, &c., work which certainly does not savour of art. When as a profession we are more thoroughly trained, and when our occupation has obtained legal protection from the competition of unqualified persons, we shall be in a position to adopt more generally this higher standard of work. And when the last of these conditions is established, the first will naturally follow and the public will employ us more generally.

The absolute necessity of some protection of the title of *architect* and its confinement to duly trained men is being more widely felt every year. In addition to the striking unanimity of continental professional opinion which I mentioned a twelvemonth ago, we now have the weighty and closely reasoned pronouncement of the President of the Institute in favour of something of the kind. A law has just been passed in California with this purpose, and I am convinced that the majority of provincial professional opinions in this kingdom is in favour of it. The Institute's policy, moreover, since the establishment of the examinations is incomprehensible and illogical, excepting as based on this principle. After all, the proposal is only that the State should give us a justly acquired right to the expensively acquired skill and knowledge which it demands in the same *spirit* as it did to the mediæval guilds, but in the *manner* dictated by the political and social conditions of to-day.

Gentlemen, if this Association is not to experience a serious check in its useful career, we must now apply ourselves heart and soul to settling the vexed question of new premises. This may be done without undue labour if we all put our shoulders to the wheel, but not otherwise. I need not utter a word to you as to the urgent need for extension. We have completely outgrown our accommodation, and shall go on wasting money every year in trying to fit our square needs into round spaces until we can find suitable and sufficient room elsewhere. You will recollect that after many years' search for premises adaptable to our wants we abandoned the effort as impracticable, and for the last twelve months or more we have devoted much time and thought to finding a site suitable for erecting a building such as we want. One such came before us this last summer, but it would have involved a capital expenditure of at least 18,000*l.* (including the premium for the existing lease) ; and the impossibility of ascertaining how much we could collect towards this before it was necessary to close with the offer convinced the Committee that there was no other course than to make an appeal for funds this autumn, and thus be prepared to take up the next suitable site which may come before us.

Freehold we are unlikely to be able to get even if we could raise capital enough. Ground rent, with rates and taxes, repairs and insurance added, are all we can at present afford to pay out of annual income. We must, therefore, be prepared to collect the whole cost of building and equipment, and other expenses, a sum amounting (according to the two last building schemes gone into by the Premises Committee) to at least 20,000*l.* This estimate allows nothing for luxury, but would provide merely a simple building well designed to suit its purpose. The Committee believe they already see their way to something like 3,000*l.* within the next three years, including specific promises they have received.

If every member of the Association would kindly undertake to collect (not necessarily to give) at least a guinea this session we should have made a start, without external help, to the extent of about 5,000*l.*—a satisfactory guarantee of our enthusiasm and determination to have premises worthy of the work we are doing. It is, after all, the public more than the profession who will benefit by this encouragement of architecture in London, and we need not be shy in asking the support of our friends in so good a cause. When technical education is being so well endowed by private and public liberality art surely may claim its due share. Supposing our anticipations are realised so far, there ought to be no great difficulty in raising another 5,000*l.* from other sources within the present session, and with 10,000*l.* we might go forward in anticipation that a scheme so well inaugurated would be the best further appeal to the liberality of the profession and lovers of our art, and we might then reasonably expect to open our building free of debt within three years from the present date.

You may recollect the anecdote relating how Sir Thomas Lawrence offered his cartoons by Raphael and Michelangelo to the Oxford University for 7,000*l.* The offer was accepted, and the Committee, after collecting 3,000*l.*, called on Lord Eldon asking for 100*l.* He put down his name for 3,000*l.* They told him they could easily collect the remainder. "No," said he, "your men have probably collected all they can spare ; I can as well give the rest," and he wrote another cheque for the whole 4,000*l.* There are Lord Eldons still in existence ; let us hope they still retain enough interest in art to put this great educational effort on a broad basis, for who knows how many Michelangelos, and not mere individual efforts of their prototype, they may thus bestow upon their country !

One of the greatest thinkers of the nineteenth century* directs our attention to a point which should encourage and stimulate us as individual students as well as an Association of Architects, viz., that "in proportion to the excellence of any form of being is its progress tardy and its cycle fast." He says :—

"Compare the different faculties and feelings of

* Martineau

the individual mind. You find them appear in the order of their excellence, the noblest approaching their maturity last. Sensation, which belongs to man in common with all other sentient beings, is the endowment of his earliest days. Memory, which simply prevents experience from perishing, which furnishes language to the lips and preserves the materials of the past for future treatment by the mind, ripens next. The understanding, which makes incursions and wins triumphs in the fields of abstract truth, is of later origin; while the great inventive power, which distinguishes all genius, which seems to sympathise with the devising spirit of the artificer of things, to apprehend by natural affinity the most subtle relations he has established, and from old and gross material to create the useful, the beautiful, the true, is the last, as it is the rarest and most glorious, of intellectual gifts."

Elsewhere he shows that the same principle applies to the works created as to the mind which originated them, thus:—

"As every great sentiment of the human mind shapes itself into expression in some form of art, it is fair to infer that a passion which has left no durable memorials .... cannot have wielded any great power. In measuring the art of any people, you find the proportion of their nature; for precisely here it is that the mind transcends the rule of mere utility and works to the scale not of any outward need, but of an inward affection that must come forth, and the deeper and more durable the feeling the less perishable are the monuments it creates. What, then, are the remains which you can study in the land of the Cæsars or the Ptolemies? The first obvious fact is that the buildings devoted to the convenience of the body are for the most part gone; while those that represent ideas of the mind are standing yet. The provision for shelter, the places of traffic, the treasuries of wealth, the home of domestic life .... have crumbled into the dust .... but the temple answering to the sense of the Infinite and Holy, the rock-hewn sepulchre where love and mystery blended into a twilight of surmise; the column or the bust of civic praise, grateful for services to the commonwealth: these survive the shock of war and the waste of centuries, and testify that religion, love, and honour for the good are inextinguishable. .... Suppose the ages to have done their work on this great metropolis and buried all but its most durable remains. .... There are the same great monuments of our humanity repeated still. .... but in the midst of them you discover vestiges to which Greece and Rome present no parallel. .... Here we have a new sentiment—of sympathy with defective and suffering humanity, which in heathendom has left, so far as I know, not one memorial of itself, and which now vies in the solidity of its creations with the most ancient passions of the soul. .... Examples these of the Christian sense of the infinite worth there is in man—his sigh for what he ought to be, his grief for what he is; his faith that the meanest is but the highest in germ; his vow to clear every burden from the lot, to clear every film from the mind that makes his poor brother seem less than a Son of God."

Yet as students we chafe under the long and patient training required to educate this high faculty, and as a class of artists we sometimes allow our enthusiasm to suffer because national taste is so slow in developing. No one will deny that the art of the European Renaissance is a higher and nobler thing than that of the New Zealand Maoris, or assert that the art of Greece was produced *in spite* of the high intellect and civilisation of that people. Let it suffice that we *are* progressing and that time must be allowed in proportion to the excellence of our art. To us belongs only the responsibility of doing our best by cherishing at all cost the highest ideals and cultivating our personal talents to their utmost capacity.

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Professor Beresford Pite, in proposing a vote of thanks to the chairman for his interesting and suggestive address, congratulated the Association on its era of unexampled prosperity. Having had some little experience in the affairs of the Association, he was overpowered by a knowledge of the present state of their financial affairs. With a membership of over 1,300, and an annual subscription of from half-a-guinea to a guinea, there was a balance on the right side of 500*l.*, and it was very much to be hoped that that condition of affairs would continue. He also thought that the Association was to be very warmly congratulated upon the drawings which were exhibited that evening. He did not think there could be any doubt that the standard of work in the classes and in the annual competitions had greatly improved in recent years. The Association was very much indebted to those kind friends who helped as visitors, and were really sources of inspiration in the School of Design. The Association was to be congratulated most heartily upon having a number of able and busy men who sacrificed time to visit the School, not for the purpose of teaching design, but to criticise the designs which the students produced. These student designs really gave an idea of the general progress of design in the profession, for, after all, they were produced by men working in architects' offices, and they represented to a great extent what were the current ideas in the profession. About one part of the address they had listened to he would like to take exception to, for it was an important matter to them as an Association—probably more important than the broader question that had been touched on. The President said, "yet as students we chafe under the long and patient training required." He (the speaker) was sorry if that was so. His own view of a student's life was that it was anything but "chafing." He could not understand a student working unless he enjoyed his work in architecture, and if the student did not he had better give it up, and go in for the examinations of a profession more congenial to his taste. Unless a student had enthusiasm imparted to him, or unless it were created in him, he was an unlucky fellow, and then it was that he "chafed under a long and patient training," especially when he saw other students bound ahead and, aided by divine enthusiasm, produce magnificent designs which won prizes. It seemed to him that all schemes of architectural education would fail of any real benefit to the profession unless they aimed at cultivating within the student this faculty of genuine artistic enthusiasm for architecture as a fine art. Students could design without the limitation of clients' requirements, without the bothers connected with estimates, builders, &c., and that ought to give real delight to students. He could assure those who had been studying in the Class of Design that they had been spending what would prove to be some of the best days in their professional life. In designing for a cantankerous client there was nothing like the pleasure that there was in the preparation of designs which were to be criticised by friends. The cultivation of enthusiasm was a difficult subject to dogmatise about, because enthusiasm came in so many ways to different men. It might come at home in England while practising sketching in villages and country towns and getting that wonderful fever for admiring everything that was old. They could look about their own town and district and take an interest in the buildings and in those who built, and then they would begin to feel some enthusiasm for even the commonplace buildings of their own district. They should also cultivate enthusiasm for the great men, and "take up" the life of a great man and work through it—the life of Cockerell, Burges, or some of the men of the Renaissance. Study their work; watch the development of their designs, and with some amount of hope that one day you will have some such opportunities that they had. Try and see in their work your own, and try and get personal enthusiasm to spring up." It was perfectly true that we could not afford to educate in the old style, but somehow or other the old style produced good results. How was it that men who were great architects when there were no schemes of education did such incomparable work, which was so complete in every detail, and showed such perfect mastery of everything? It must have been because of some underlying spirit which we wanted now. The Association was a body of young men most of whom were working in offices where good men did bad work; and the Association gathered all together under its wing and helped them to cultivate the art of architecture apart from office principles. Let them make the most of that—of the ordinary meetings, the visits to works in progress, the country trips, &c.; they were all of great use to students. They should not be easily satisfied with themselves as students or as architects. There was a great deal of truth that the architects' best friend was his india-rubber; still, the work they rubbed out was often their best work, and it was work they never got paid for. They should rub out persistently, for the true artist was never satisfied with himself.

Mr. Francis Hooper, in seconding the vote of thanks, said he thought the thanks of the meeting were also due to the ladies for their presence that evening. He heartily agreed with Professor Pite's remarks as to "chafing under long and patient training." If present-day students had as happy an experience as he (the speaker) had in his early A.A. days, they would not chafe under their training. He hoped Association students appreciated their opportunities of meeting men of experience prominent in their profession, who gave up valuable time to help younger men in their studies. In regard to the practical part of the work of an architect, it should always be borne in mind what was the object of their work. Take a building erected to the service of God—did it help the work for which it was erected? Take a Government or municipal office—to what extent were the officials indebted to the architect in the planning and arrangement of the building? Were the premises of the business man favourable for carrying on his business, or did the hospital-buildings aid the beneficent work of the doctor? To what extent were the cottager or housewife helped or hindered in their work by the houses they lived in? Was it not a patriotic thing for architects to have as a stimulus, in even the humblest work they undertook, the idea that they were helping human beings to do their work better, to be better citizens, to serve their country better? As to the finances of the Association, he had held the office of Hon. Treasurer so short a time that credit for the favourable balance was due to others. He hoped the fact that a member of Council of the Institute had discovered a balance on the right side would not induce the Institute to think that the Association no longer needed help. The annual donation from the Institute had been a great help to them in the past, and if new premises were to be found for the Association, as they should be, all the help they could get would be needed in the future.

The vote of thanks having been heartily agreed to,

The Chairman, in reply, said he hoped they would never think that he deprecated or underrated in any way the great importance of enthusiasm on the part of students of the Association. What he meant by chafing under long training was this: he had noticed a tendency in some very enthusiastic men, who were sure to do well on the art side of their work, to chafe under the necessity of thoroughly mastering building construction, and to go on producing designs which were thoroughly impracticable in planning and construction. It was against that that he entered a protest. As to great men designing beautiful works in the past without systematic training, that was perfectly true, but great men would be found in all periods, and to great men nothing was insuperable, for they could overcome any difficulties or disadvantages which might beset them. The Association trained the generality of men, and, as all men were not geniuses, one had to be very systematic to economise time in this busy age, and that was done by the progressive courses arranged by the Association.

The meeting then terminated.

The next meeting of the Association will be held on November 1, when Mr. Alexander Wood will read a paper on "Cambridge in Early and Mediæval Times."

## ARCHITECTURAL ASSOCIATION SCHOOL OF DESIGN:

### PRELIMINARY MEETING.

The preliminary meeting of the Architectural Association School of Design was held at No. 9, Conduit-street, W., on October 15, the President, Mr. Seth-Smith, being in the chair. There was a good attendance of between fifty and sixty members, Mr. Macvicar Anderson and Mr. Statham having accepted the Committee's invitation to give a short address to the students. The President briefly called upon Mr. Anderson, who first said that he considered it an honour to address them, but he should explain that he had only been asked for an extempore address, and consequently had no written notes. He began by saying that architectural students had two advantages over older men—the advantage of youth and the hope of influencing the architecture of the twentieth century. The man in the street, if called upon to define an architect's work, would probably only think it meant designing, say, a front elevation. But we knew that it should include every part and every detail; and, in his opinion, the most important point of all was planning. He

called it the art of planning, viz., to arrange a plan conveniently and well, and, in the case of a country house, with due consideration to aspect and prospect, and with rooms in their proper relationship to each other. He instanced the Law Courts as a fine building, practically ruined by an inconvenient plan, for which, however, the architect, Mr. Street, was not to blame, as the plan was dictated to him. The speaker went on to warn students against departing lightly from established rules which many generations of mankind have sanctioned. He instanced the Orders, and maintained that it was impossible to improve them and the established modes of setting them out. But some students were not content to take past ages as a guide, but in the desire to be original made over-bulging entases and other monstrosities which generally had a most ungraceful effect. He did not want them to imagine that they were not to exercise ingenuity and originality, but that beauty must not be sacrificed to originality. In effect, we must design in purity and simplicity, and in public buildings with symmetry. In conclusion, we must set before us lofty ideals and try to attain to a high standard. Unless we did this we should never rise above the ordinary level. We must thrash out and be critics of our own work, and then, by our lives and work, we might improve the century.

Mr. Statham then read a paper which will be published in full in our next issue, with some diagrams, and of which it is therefore unnecessary to give a *résumé* here.

The President then touched upon points in the two addresses, and said that the Association's endeavour was to train men of ordinary average ability for the work of life that they might become good and effective architects holding a high ideal before them. He proposed a hearty vote of thanks to Mr. Anderson and Mr. Statham for their great kindness in coming and giving them the benefit of their experience and knowledge. This was carried by acclamation and after Messrs. Anderson and Statham had briefly replied, a very successful meeting terminated.

## MANCHESTER SOCIETY OF ARCHITECTS.

The following forms the most important portion of the address delivered to the Manchester Society of Architects by the President, Mr. A. Darbyshire, at the opening meeting of the session on the 10th ult. :—

"Having briefly attempted to describe the contrast between the architectural epochs of the middle of the last century and of the present time, it will be well to point out some of the defects (which have arisen, perhaps, as natural consequences) in the practice of architecture of the present day.

As a matter of fact, increased numbers generate competition, and with a larger market of architectural practitioners the general public is apt to treat the relationship with the profession from a commercial point of view. Any sympathy with sentimental conditions which may have existed in bygone years entirely disappears. For example, if a building has to be altered or enlarged (although recognised as a satisfactory work, and its author still living), the work is ruthlessly given to a stranger. Some years ago many of us have smarted under this treatment, but now the custom is general, and we accept it as a matter of course, and as evidence of the new commercial order of things. Again, it was the custom in times past, when any work of consequence requiring special knowledge had to be realised, to consult the architect who by accident or inclination might have shown a capability for such work. Nowadays a general competition must be instituted, and hundreds of men must throw away their brains and money in a hopeless effort to win the prize and to achieve renown. Yet another instance of the new order of things: An architect was awarded some years ago—and justly awarded—the first place in competitive designs for a cathedral. The work was postponed. Now it is to be taken up again, and quite recently it has been decreed that a new competition is to be held, and the man who had proved that he was pre-eminently qualified for the work has been set aside. Such is the sweeping policy which ushers in the twentieth century. It seems almost a waste of time to write or talk about this system of competition. Until very recent times the methods employed were disgraceful, and unworthy of those who used the system to take advantage of professional talent. It is, however, satisfactory to admit that improvement has taken place in recent years in the conduct of architectural competitions, but until competition is limited, each competitor remunerated, and the result adjudicated by a thoroughly competent and honourable architect, the system will remain incomplete and a scandal to our present state of civilisation.

Although I entertain fixed and strong convictions on this matter, I will modify what I have said by this remark. If it were possible by the means I have mentioned to secure genuine and honest results, then any dormant talent might be developed, and reputations made through the medium of competition. Genuine assessment is clearly the pivot on which such a result is to be turned.

I will now offer a few observations upon one or two matters which I think of interest and importance to us as a local society and as practical architects in a great provincial city.

The members of this Society are, no doubt, all cognisant of the fact that the Corporation of Manchester has determined to establish a municipal office of architecture to be presided over by an official who is to be styled 'The City Architect.' I doubt whether we have yet fully realised what this action will mean, or how much will depend upon it. What sort of a man is to hold the office, and with what powers is he to be invested? Is the City Architect to decide the future artistic development of architecture in the city, in addition to the technical points which may arise in the future? If the answer is in the affirmative, it will be evident even to the non-professional mind that the acceptance of such a responsibility involves the appointment of a man of high culture and great artistic knowledge. Again, does the contemplated appointment involve the designing of all public buildings and edifices under the control of the Corporation? If such should be the case, the profession would suffer materially. I venture, however, to think that a result of this kind is not contemplated by the Corporation. I fully appreciate the desire of the Corporation to appoint a City Architect, and I would have him invested with power to condemn all ugliness and purely commercial street architecture, but it would be undesirable to place the future architecture of the city entirely in his hands. Such a decision would be the death-blow to variety of architectural treatment, and the future civic architecture would be 'cribbed, cabined, and confined' to one line of thought. The proposed appointment of a City Architect seemed of such vital importance, that the Council of the Society after careful deliberation resolved to approach the Corporation on the subject, and the following resolution was forwarded to the Town Hall authorities :—

'That this Council hears with pleasure of the intention of the Manchester Corporation to appoint a competent architect as architectural adviser to the Corporation, and would respectfully suggest that this appointment should not prevent the Corporation giving to practising architects all works of architectural importance which they may in the future contemplate, this suggestion being made by them both in justice to the architectural profession [practising in this city] and as a means of securing more varied architectural treatment than would be possible if all designs emanated from one source, and this Council will have much pleasure in furthering the views of the Corporation in any way that it may consider desirable.'

In reply to this resolution, communications have been received from the Town Clerk and the Lord Mayor, to the effect that it has been placed before the Committee with whom the appointment of City Architect will rest, and that no decision has yet been arrived at. Should the Corporation accept the suggestion of your Council embodied in the latter part of the resolution, I need not say that any recommendation or advice will be given with a view to a right solution of a problem involving, as it may, the proper application of our art in the future street architecture of the city.

There is another matter which is of great importance to our local profession, and which requires careful consideration. I allude to the establishment of a chair of architecture at Owens College. The idea of a professor of architecture in connexion with the university is not a new one. It has occupied the attention of some of the elder members of the Society for several years past, but it is only recently that the matter has assumed a practical form, and that steps have been taken towards the realisation of an ideal which I venture to think would be of incalculable value to our profession in this city. It may be within the knowledge of members that a joint committee of the Society and the College has been appointed to take this matter into full consideration. A set of resolutions have been drawn up by the Committee, which fully explain the object of this important movement.

'1. That it is highly desirable to establish in Manchester a School of Architecture on the same general lines as those of the Liverpool School of Architecture and Applied Art.

2. That to give effect to this object there should be a Chair of Architecture in the Owens College with arrangements under which adequate preparation could be given for the existing Honours School of Architecture in the Faculty of Arts of the Victoria University.

3. That in order to provide for a complete School of Architecture, it is essential that there should be co-operation between the city, the profession, and the college. In particular it would not only avoid useless expense and overlapping, but would also tend to efficiency if a large portion of the instruction in drawing and building construction were taken in the Municipal School of Art and the Municipal Technical School.

4. That the above objects could be best obtained by the appointment of a representative Committee and of a single Director, who should also be Professor of Architecture at the College.'

These resolutions were signed by the Chairman of the College and by myself, and forwarded to the authorities of the Municipal Technical School and the Municipal School of Art. I regret to say that, after several interviews with the committees representing these institutions, our efforts have so so far proved unsuccessful. In point of fact, what they have already done by the appointment of Mr. Stannus as their teacher is sufficient, and they fail to see the necessity of employing any portion of the funds at their disposal for the establishment of a chair of architecture in connexion with the Victoria University. They do not understand how the dignity of the profession would be enhanced, its respect increased in the public mind, or how the bestowal of University honours would affect the future students of architecture in our city and locality. I cannot think that the matter will be allowed to rest where it is; it certainly will not be abandoned. It appears to me that we must fix upon the man best fitted to fill the chair of architecture, and then discuss a method of raising the funds to secure his services, for a time at least, or till such time as a permanent fund can be raised for the endowment of the chair at the Owens College.

There is a point in connexion with the practice of architecture to which I must briefly allude, and that is the collaboration of the architect, sculptor, and painter where works are to be carried out in which an artistic ideal has to be realised, or where a symbolic decorative language has to be used on an architectural foundation. It has always seemed to me that, although the architect provides the medium of artistic expression in his work, it is desirable that he should consult those who have to embellish it with high art adornment in sculptured or pictorial language—in other words, that proper preparation should be made for those sister arts which contribute so much towards the monumental character of architecture. I feel convinced that if a harmonious working together of the architect, sculptor, and painter was made a rule instead of an exception, many mistakes would be obviated and grander results would be realised. This is a subject upon which much might be said and written, and justice cannot be done to it on an occasion like the present.

I trust the coming architecture of the twentieth century may give evidence that the minds of architects are not only constructive, but that they will show an extended culture, and a consideration for the harmonious union of the sister arts with our own."

New Public Library, Falkirk.—The ceremony of laying the foundation-stone of Falkirk new Public Library took place on the 12th inst. The building is being erected in Hope-street, and is to provide, besides library and reading-room accommodation, a large recreation-room, which is also intended to be used as a lecture-room. To the cost of the erection of the library Mr. Carnegie has contributed 3,000*l.*, and the site is provided by the Town Council. The architects are Messrs. M'Arthy & Watson, of Edinburgh.

## IS A SCHOOL OF NATIONAL ARCHITECTURE POSSIBLE IN IRELAND?

THE above question formed the main point of the opening address delivered by Mr. C. J. MacCarthy, the President of the Architectural Association of Ireland, on the 8th inst. After some general preliminary remarks, Mr. MacCarthy continued :—

"But granted that a School of Architecture is possible and necessary, it may still be asked, Will not your attempt to make it national end in making it narrow and provincial? Is not all great art cosmopolitan? To the first of these questions the answer is an unqualified No; to the second a very qualified Yes.

Nationality and provincialism are as far asunder as the poles, and only a very loose habit of thought could ever confuse them.

As to cosmopolitanism in art, here, too, a confusion of thought exists. All great art must in its origin, in its growth, in its making, be instinct with the spirit of the country which has produced it, and therefore, in the true meaning of the word, essentially national. But there is a sense in which great art is cosmopolitan, for as soon as any nation has produced even one solitary work of really great art, that work belongs henceforth to mankind. The sculpture of Greece is to-day the inheritance and the birthright of every cultivated—I may say of every civilised—man. But none the less is it essentially Greek, Greek in its idea, in its spirit, in its character. And so it is with all great art, for, to quote again the words of Mr. Beresford Pite already quoted by our late President in his admirable valedictory address, 'Architectural art is but the expression of those influences which go to form the character of a nation.'

Now if I were asked to what branch of architecture I looked as holding forth the greatest promise of becoming the foundation of an Irish school, I would unhesitatingly say, to ecclesiastical architecture. It is to the Catholic Church, the Church of the majority in Ireland, rather than to the State, the Municipality, or to private enterprise, that we must look for the material out of which a school of national architecture is to be created.

Perhaps few of us realise what vast sums of money have been spent on the building of Catholic churches within the last fifty years. It would be difficult to estimate this amount, but it must, I think, be reckoned by millions. But although the building of churches shows, I think, no falling off as to numbers, it is a lamentable fact that, from the point of view of architecture, there has been for several years a distinct retrogression. We cannot conceal from ourselves that church architecture in Ireland has fallen upon evil days. However much we may be disposed to blame the leaders of the Gothic Revival in Ireland for having, under the influence of Pugin, adopted the English parish church as their model instead of seeking inspiration from such beautiful examples of purely Irish works as are found in Cashel, Holy Cross, Cong, and Kilkenny, to name but a few, still we must admit that they, at all events, were earnest men, and that their works are remarkable for beauty of design, honesty of intention, and sound construction. Can we say as much of our church architecture of to-day? Is it not, on the contrary, too often characterised by the absence of every one of these qualities? Intricate in design, yet absolutely without interest, the majority of modern Catholic churches are nothing short of a disgrace to the country. Flimsy in construction, ill-considered in plan and arrangement, made ridiculous by ill-placed, senseless carving, and pretentious but absolutely inartistic detail, these churches have been decorated internally in a manner of which literally I cannot trust myself to speak. It is safer for me to quote the words of a writer whose opinion on such a subject is valuable, and whose acquaintance with the facts is unquestioned. In an admirable paper read at what is known as the Maynooth Union in June last, Father O'Donovan, of Loughrea, stated as his deliberate opinion that the decorative work in our churches was without exception 'as bad, artistically considered, as one could possibly conceive. We have,' he said (that is, the clergy of the Catholic Church in Ireland), 'hitherto allied ourselves with the Philistines in art, and have followed the lead of incompetent architects and pushful commercial travellers from Birmingham and Munich.' 'There is scarcely a church in Ireland that has not one or more stained glass windows. In some of the larger churches the cost of these windows runs up to 3,000*l.* or 4,000*l.*, and in almost all cases this glass is, from the standpoint of art, beneath contempt.'

With every word of what Father O'Donovan has said I fully agree, yet I do not despair; on the contrary, I am filled with hope, because I believe that the lowest depth has now been reached; and when things have come to this pass they usually mend. But I have another and a brighter reason for hope. We must not forget that Ireland has a sound tradition, interrupted, but, I think, not altogether lost, of fine architecture, distinctively and peculiarly Irish; while in the decorative arts such as stone carving and metal work, our pre-eminence in the past is almost universally admitted.

I know it has been said that outside the early Romanesque work there is little or nothing distinctively Irish in our architecture, and that the Gothic work of, say, the thirteenth, fourteenth, and fifteenth centuries was largely English. This is, however, an erroneous opinion, and here I will call as witness a writer whose authority can hardly be questioned. I mean Mr. James Fergusson, whose 'History of Architecture' is still the standard work on the subject. Writing of the architecture of Ireland, he says: 'After the conquest of 1169, the English introduced their own pointed architecture . . . but beyond the pale their influence was hardly felt. Whatever was done was stamped with a character so distinctively Irish as to show how strong the feeling of the people was, and sufficient to prove how earnestly and successfully they would have laboured in the field of art had circumstances been favourable to its development.' All the Gothic work in Ireland was, in fact, marked by what Mr. Fergusson calls a foreign (that is, an un-English) character; while the cloisters of Muckross, Holycross, and Kilconnell are, he says, more like those to be met with in Sicily or Spain than anything in the British Islands.

But perhaps I have said enough about the distinctively Irish character of our architecture in the past. Let me turn again to the present, and more especially to the future, for already I think I can see the beginning of an art revival in Ireland. Though little more than a ripple on the surface of the water, it is there all the same, and indicates, if I mistake not, the onward flow of the tide. I do not care in the least whether you call it Celtic or Irish, there is a movement around us which is national in the widest sense—not in any narrow, or party, or political sense—a movement which has already given us that most astonishing revival of the Irish language, and a revival, less marked, but very real all the same, of music and literature. That this—in the true sense—national movement is certain to affect the artistic life of the country I, for one, cannot doubt. And I think that Father O'Donovan's paper from which I have quoted is a remarkable sign of the times; all the more remarkable when we remember the audience to whom it was addressed. I think it indicates that the clergy of the Catholic Church (who, you must remember, are the dispensers of enormous sums of money on architectural and decorative art) are at last awakening to a sense of their responsibility in this matter, and will no longer be led by the incompetent or careless architect or the pushful art-bagman. If this is so, we may indeed be on the threshold of a brighter and a better era, for, as soon as the general level of taste has risen and the demand for real art exists, the artist and the craftsman will be found to supply it.

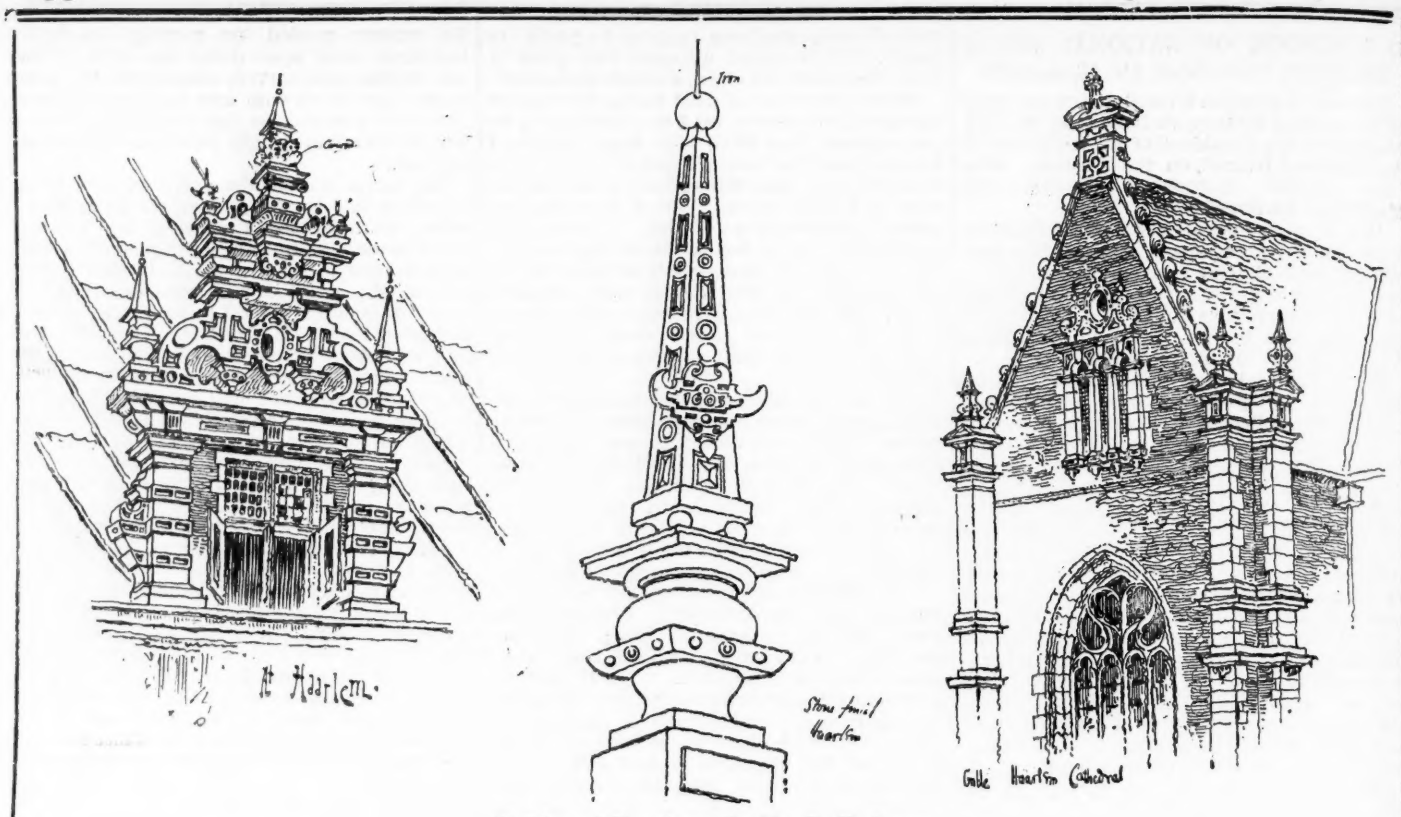
If I am reminded that all this is largely a question of money, and that one cannot afford to employ artists to paint the walls and windows or carve the capitals and string courses of every country church, the answer is that half the country churches would be very much better without either carving or painting. If in future we will leave out the Carrara marble altar with its bristling reredos, the vulgar stained glass from Germany, and that impertinent carved oak pulpit from Belgium, and put the money into honest masonry instead, it will have cost us nothing, and we shall have done a good stroke of work for architecture and for Ireland. But when carving and painting are desired, let our first care be that they are not only good, but artistically the best that we can possibly procure, and until we have money enough to do this we must omit them altogether. Think how much better many a nave arcade would look to-day if all capitals had been left in the rough, or if the money wasted on carving ten badly had been spent upon doing one well. That one capital, well carved, would not only have been a joy to all who saw it, but would have served as a model for the emulation of those who in after years might be called on to carve the rest.

The objection on the score of cost must therefore fall to the ground—if good decorative work is too expensive, we can go without, or better still, of course, we can have a little of what is good, though costly, instead of a great deal of what is cheap, but nasty. It is in this spirit I think that we should look at the question of church decoration, but first, and above all, we must see that our architecture itself is beyond reproach, for though bad decorative work will ruin an otherwise beautiful building, no excellence of decoration will atone for errors of design or detail in the building itself. It is therefore to our architectural design that we shall have to devote our attention in the first instance, if we honestly desire better things. And here I must confess I am confronted by a very real difficulty, for even if I saw the way quite clearly myself (which, indeed, is more than I can pretend to do) it would be impossible for me within the scope of a short paper like this to do more than indicate in a general way the path which we should attempt to follow. As a first step on our road we must break with the evil practices of to-day, and then, turning to the past of our own country for inspiration, let us study in the first place at least the simplicity and dignity so characteristic of our earlier Gothic buildings. Thus and thus only, I think, can we hope to lay the foundation of a really national architecture."

## *ARCHITECTURAL SOCIETIES.*

ARCHITECTURAL ASSOCIATION OF IRELAND.—The annual general meeting of this Association was held in the rooms of the Royal Institute of the Architects of Ireland, 20, Lincoln-place, Dublin, on Tuesday, the 8th inst. The President, Mr. C. J. MacCarthy, occupied the chair. After the usual business was concluded the hon. sec. read the report of the committee for the Session 1900-1, and the hon. treasurer, Mr. J. H. Webb, his statement of accounts. The prizes won during the past session were then distributed by the President, the prize-winners being as follows :—A. A. I. Travelling Studentship, Mr. J. A. Rockett; Institute Prize, Mr. Charles B. Powell; Beckett Prize, Mr. L. O'Callaghan; Class of Design, 1st, Mr. W. Connolly; 2nd (tie), Messrs. J. K. Vinycomb and H. J. Leask; Class of Building Construction, 1st, Mr. H. Lundy, 2nd, Mr. W. Connolly; Technical Demonstrations, 1st, Mr. L. O'Callaghan; 2nd, Mr. H. J. O'Rourke; 3rd, Mr. F. Morley. The President delivered his inaugural address, in which he dealt with the possibility of establishing a national type of Irish architecture, giving it as his opinion that in the buildings of the Roman Catholic Church in Ireland lay the possibilities of such a movement being accomplished. The greater part of this address we print at length in another column. Mr. Joseph Geoghegan moved, and Mr. R. M. Butler seconded, a vote of thanks to Mr. MacCarthy for his very able and interesting address, which was carried with acclamation.

MANCHESTER SOCIETY OF ARCHITECTS.—On Thursday, 10th inst., the President (Mr. A. Darbyshire) opened the session with an address to the members. Briefly describing the conditions that existed when he was a pupil, the lecturer compared the position and practice of an architect of to-day with that of thirty years ago, and alluded to the great educational facilities now to be obtained by those wishing to become architects. In conclusion the President urged the students to avail themselves of their present opportunities, and spoke of the importance of the study of the human figure. In moving the vote of thanks, Mr. J. B. Gass (Vice-President) emphasised many of the points already alluded to. He also thanked the President, in the name of the Society, for the Presidential Badge bearing the arms of the Society, which Mr. Darbyshire had given them. Mr. E. Hewitt (Vice-President) seconded the vote of thanks, and Mr. Royle and Mr. Ely also spoke. The President briefly responded, and at the close of the meeting the badge, which is an artistic piece of jewellery, was handed round for inspection. It is oval in form and is a reproduction of the seal of the Society in gold and enamel, having the City heraldry correctly




*Sketches at Haarlem. By Mr. J. H. Coram.*

emblazoned. The title of the Society surrounds the device setting forth the date of incorporation. The reverse will have the date of the gift engraved on it.

The prizes offered to students of the Manchester Society of Architects who have been working at the Technical School and School of Art during the past session have been awarded by the Council as follows:—Mr. C. G. Agate, first prize value ten guineas; Mr. J. W. Ramsbottom, second prize value five guineas.

## SKETCHES AT HAARLEM.

These sketches, from a set by Mr. J. H. Coram, illustrate some of the peculiar characteristics of Dutch Renaissance detail. The dormer window is a very amusing specimen, not certainly to be recommended for imitation, but with a kind of fine unconscious humour about it.

## ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

A Midland Counties District meeting of the members of the Association of Municipal and County Engineers was held at Nuneaton on Saturday, October 12. The members of the Birmingham Association of Students of the Institution of Civil Engineers attended by invitation. The President (Mr. E. G. Mawbey, Leicester) took the chair, and among those present were Messrs. J. T. Eayrs, Birmingham; J. Wilcox, Birmingham; S. R. Lowcock, Birmingham; A. D. Greatorex, West Bromwich; Berrington, Wolverhampton; J. Lobley, Hanley; Scourgie, Rotherhithe, J. Price, Birmingham; W. Lacey, Oswestry; Dawson, Banbury; Smith, Kettering; and others.

Councillor Horton, in welcoming the members of the Association, expressed the hope that the meeting might be interesting, instructive, and enjoyable.

The President, in acknowledgment, said there were exceptionally important and valuable works for the members to see at Nuneaton. There were few districts which had had greater difficulties to contend with in respect of sewage disposal, and the very admirable way in which they had grappled with and overcome those difficulties deserved all praise. The sewage was a very strong one, yielding over 20 tons of pressed cake per 1,000,000 gallons. The volume of sewage was also large, averaging 750,000 gallons per day for the population of 20,000, served at the present time.

Mr. J. S. Pickering, A.M.Inst.C.E., engineer and surveyor, read a paper on "Municipal Work in Nuneaton." He said the town ranked amongst the most important manufacturing towns in the Midlands, and its rapid growth seemed to point to a still greater future in importance. It had excellent railway accommodation, and its industries were of a very varied character, comprising collieries, brickworks, stone quarries, sanitary-pipe works, hat factories, iron foundries, fellmongers' works, worsted-spinning, plush, elastic web, ribbon, and other factories. The urban district comprised Nuneaton, Chilvers Coton, Attleborough, and Stockingford, an area of over 10,000 acres. The population in 1891 was 15,246, and the recent census showed it to have increased to 24,995. The rateable value was 100,078*l.*

The Council were now considering the desirability of obtaining a charter of incorporation. The total length of roads repairable by the Council was about thirty-seven miles. Ten and a quarter miles of these were main roads, towards the maintenance of which the County Council contributed 1,700*l.* per annum, under an agreement made for a term of three years.

Tar-macadam roads were made with success, and it was proposed to adopt this type of road more extensively. A road so constructed possessed all the advantages of an ordinary macadamised road, and the additional advantages of wearing longer, being more sanitary, and requiring less scavenging and watering. A tar-macadam road could be made complete for about 2s. per super yard, with 3 in. of macadam as foundation and 1½ in. of chippings as topping, including cost of material, cartage to depôt, heating and tarring material, scarifying road and removing old macadam, cartage from depôt, laying and steam-rolling. Concrete slabs for footpath paving were made by the Council, and could be produced of equal quality to any purchased and at a less cost.

New streets were invariably made and completed (with the exception of the footpath pavements) and taken over by the Council before being built upon; consequently, the usual disagreeable proceedings and disputes inseparable from the compulsory making-up and apportionment under the Public Health Acts were avoided. The drainage of the district was carried out on what was known as the "separate" system. The total length of main sewers (apart from surface water drains) was about fourteen miles, and a further length of four miles was about to be laid for the drainage of an outlying district, and to receive the sewage from a portion of the district of the Atherstone Council, which it had been decided to receive and treat for a period of thirty years at 5d. per 1,000 gallons.

A large number of 6-in. ventilating shafts had been provided for ventilation and the street gratings closed, and this system was adopted in all extensions. A provisional order had been obtained by the Nuneaton and District Light Railways Company for the construction of about 8½ miles of electric tramways on the overhead trolley system. The Council purchased the undertaking of the East Warwickshire Waterworks Company in 1897 for 30,000*l.*, the Company relinquishing 10,000*l.* of their capital for the benefit of the town. Since then a further capital of 35,000*l.* had been expended on a new pumping station, filter beds, an additional reservoir, and in extending the mains. The works had been designed and carried out by the author. Considerable difficulty had been experienced in obtaining a water supply. Two deep wells sunk by the late company in the permain strata yielded an insufficient supply, but contained a useful reserve of water which could be utilised in case of emergency. In sinking two new shafts for coal Messrs. Stanley Bros. met with so large a quantity of water that they had to be abandoned, and these had been acquired by the Council, together with three Lancashire boilers, chimney-shaft, and a site of two acres of land for a pumping-station. The water from these shafts was used to supply the district. The erection of the pumping machinery and the new engine-house were now nearing completion. The engines and pumps were in duplicate, and each set was capable of raising 50,000 gallons per hour from a depth of 130 yards and delivering the water to the filter-beds under a head of 120 ft.

The consumption of water was about 400,000 gallons per twenty-four hours. The quantity used for domestic purposes worked out at an average of thirteen to fourteen gallons per head of the population supplied. The head of water in the town was 200 ft.

The question of sewage disposal had been a very difficult problem, particularly on account of the foul character of the sewage, due to the waste liquors from the wool scourers, fellmongers, and hat factories. The existing sewage works were in close proximity to the town, and occupied a site of about six acres. For many years the process of treatment was chemical precipitation and artificial filtration. The results were not altogether satisfactory, and the working expenses were very high. Moreover, the Local Government Board refused to sanction any loan for extensions without the acquisition of land for filtration purposes, and this was not available in the neighbourhood of the works. Upon the introduction of the bacterial system some few years ago it was decided to make a trial of the process. This proved so satisfactory that the treatment was applied to the whole of the sewage, with the result that a very considerable saving had been effected in working expenses. After passing through a screening

chamber the sewage flowed into a pump well 50 ft. in depth. From this it was pumped and delivered into two roughing tanks, each 13 ft. deep and 20 ft. diameter. The sludge deposited in these tanks was lifted automatically to within 2 ft. of the surface by the pressure of sewage. It was then dealt with in two of Johnson's sludge presses.

The sewage then flowed into open septic tanks or coarse contact beds. There were three open tanks, each of a capacity of 120,000 gallons. There was an area of 1,708 yards of coarse contact beds, and in order to test various materials they had been filled with coke, macadam, broken pots, ashes, and broken bricks. A portion of the sewage was treated in a closed septic tank having a capacity of 120,000 gallons. From the open and closed tanks and the coarse contact beds the sewage passed into fine contact beds, of which there was an area of 3,564 yards, varying from 3 ft. to 5 ft. in depth, and composed of coke dust, coke breeze, small coal, and fine granite chippings. From the fine grain beds the effluent passed direct into the river.

Most of the contact beds had been made in excavation with artificial walling, the subsoil being a strong marl. There was no objection to this course if the beds were made watertight, but should they leak from one to the other they were a source of trouble, and the results were not satisfactory. Some of the beds had been in operation for over two years. The coke beds give the greatest liquid capacity, but there appeared to be no appreciable difference in the result as regards the various materials composing the beds. The deep roughing tanks had been found most serviceable for intercepting the grit and other heavy matter. One of these tanks had been in regular use for over four years, and had not been emptied during this period. The closed septic tank had been in use for over two years and had not been emptied. It had liquefied (as far as could be ascertained by measurement) about 95 per cent. of the suspended matters passed through it. The open septic tanks had been in operation thirteen months, and it had been found necessary to empty them and remove the sludge once during this period. One tank was emptied after seven months' working, another after eight months', and a third after nine months', the sludge from the three tanks producing about 320 tons of pressed cake. Whilst, however, the closed tank had dealt with a daily flow of sewage equal to about 50 per cent. of its capacity, the open tanks had dealt with a daily flow equal to 150 per cent. of their capacity. Both the closed and open tanks had done excellent work, particularly when the unusually large quantity of suspended matter in the sewage was taken into consideration. It appeared to be generally considered an essential part of an open septic tank that a coating of scum should be formed. After thirteen months' working, however, the surface of the sewage was only partially covered with scum, but the process of liquefaction had certainly been in active operation. It was remarkable how quickly a coating was formed by covering a tank, which had been in use some months, with a light roof of boards. In less than twenty-four hours a scum several inches in thickness was formed. He was of opinion that the treatment of sewage in open septic tanks could not be carried on without nuisance. This might not be a serious objection to their use in some places, but it should be borne in mind. The treatment in a closed septic tank was not nearly so offensive as in an open tank, but the effluent from a septic tank had a most offensive odour when put on to the fine grain beds. In designing either closed or open tanks the fact that the deposited matter must sooner or later be removed and treated should not be overlooked. His experience was that the least offensive method of applying the bacterial treatment was by the Dibden system of coarse and fine contact beds. There was no serious nuisance produced by applying the raw sewage in a fresh state to the coarse beds, and no offensive odours were given off during the periods in which sewage was in contact with the material. The beds were so free from offensive smells that it was found impossible, as a rule, by walking over them to detect which were at rest and which were working.

It seemed to be generally agreed that about two hours was the proper time for the sewage to remain in contact with the material, and this was his experience with the sewage of a manufacturing town. He was of opinion that the most important matter in connexion with bacteria beds was the question of their reduction in treating capacity, owing to choking up. He had not yet been able to agree with the opinions expressed by some authorities that after reaching a certain stage the capacity of the beds should remain undiminished. The present sewage works having become inadequate to properly deal with the increasing volume of sewage, an entirely new scheme of sewage purification was being carried out by the author. The existing outfall works would be utilised as a pumping station and for the treatment of storm water. The sewage would be pumped to the new site, a distance of about 2¼ miles. After screening it would pass through detritus tanks, and thence through coarse and fine grain bacteria beds, and finally purified by filtration through land. The estimated cost of the works was 45,000*l.* The new works to meet the requirements of the Local Government Board were designed to treat a million and a half gallons per day, or three times the dry weather flow.

Upon reaching the new site the sewage would pass through two revolving wire screens 5 ft. in width, having ¼-in. square meshes.

Upon leaving the screening chamber the sewage would flow through three covered tanks of the "Dortmund" principle, which were each 34 ft. deep and 24 ft. in diameter, with a combined capacity of 150,000 gallons. These tanks were intended to intercept the heavy mineral matter, which would be automatically discharged by pressure of sewage in the tanks through a line of 9-in. pipes 450 yards in length to the irrigation area, where it would be delivered into furrows, and deodorised with soil until it finally became incorporated with the land. From the detritus tanks the sewage would be conveyed to the coarse-grain bacteria beds.

Each bed was provided with three inlets, and at each of these a fine screen would be placed. This special screening by large quantity of wool fibre in the sewage. The sewage would be distributed over the beds by means of open-jointed socketed pipes laid over the material. The material for the coarse beds would be broken granite about 2½ in. gauge. After contact in the coarse beds the effluent would be conveyed to the fine grain beds, which would be composed of screened coke dust. This material, although somewhat finer than that generally used, had been found to answer admirably at the present outfall works. From the fine grain beds the effluent would be discharged on to the land, an area of sixty acres having been acquired for this purpose.

Mr. J. Price, Birmingham, moved a vote of thanks to Mr. Pickering for his paper, which was seconded by Mr. Berrington, of Wolverhampton.

Dr. Bostock Hill, Medical Officer for Warwickshire, said the question of septic tanks was one of great interest to all engaged in the treatment of sewage. Although the sewage of Nuneaton was one of the strongest he had ever come across, it was admirably adapted for bacterial treatment. It was strong organically, consisting largely of refuse from woolscourers and fellmongers, and was better dissolved than a weaker sewage. With respect to the choking up of the beds, it was certain that with sewage which contained a fair amount of suspended matter the filters would in time get blocked up. Therefore, it would be advisable to make arrangements for getting over this difficulty.

Mr. A. D. Greatorex, West Bromwich, spoke of the necessity of fixing a meter to all bacteria beds so as to have accurate information as to the amount of the choking up of the beds.

Mr. Watson, Birmingham, thought it would be rather misleading to students present to take Mr. Pickering's dictum that open septic tanks could not be carried on without nuisance as applying to every place. Since he had had charge of the largest sewage purification works in the country, he had introduced open septic tanks, and had passed 25,000,000 gallons of water a day through them without nuisance, and with considerable success.

Other members having spoken, the vote of thanks was passed to Mr. Pickering for his paper.

The members then paid a visit to the blue brick and sanitary pipe works of Messrs. Stanley Bros., Limited, where they were entertained to luncheon, and the afternoon was devoted to an inspection of the new sewage disposel works. On returning to Nuneaton, Mr. Pickering entertained the members to tea.

## APPLICATIONS UNDER THE 1894 BUILDING ACT.

At the meeting of the London County Council on Tuesday the following applications under the 1894 Building Act were considered. Those applications to which consent has been given are granted on certain conditions. Names of applicants are given in brackets. Buildings are new erections unless otherwise stated :—

*Lines of Frontage and Projections.*

*Hammersmith.*—Buildings on the site of Nos. 283 to 305 (odd), King-street, Hammersmith (Messrs. Boehmer & Gibbs).

*Woolwich.*—Two-story bay windows in front of Nos. 25, 27, and 29, Westmount-road, Eltham (Mr. G. F. Logsdail on behalf of Mr. A. Cameron Corbett, M.P.).—Consent.

*Holborn.*—An enclosed gangway across Onslow-street, Holborn, to connect No. 87, Farringdon-road with a building on the west side of Onslow-street (Messrs. Lander, Bedells, & Crompton on behalf of Messrs. Falk, Stadelmann, & Co.).—Refused.

*Formation of Street.*

*Hackney, North.*—Refusal to sanction the formation or laying-out of a new street for carriage traffic to lead from Mount Pleasant-Lane to Comberton-road, Hackney.

*Width of Way.*

*St. George-in-the-East.*—Widening of parts of Langdale-street, James-street, and Samuel-street, Stepney, to a less extent than the prescribed distance, and also the erection of buildings in those streets at less than the prescribed distance from the respective centres of such streets (Mr. H. H. Collins on behalf of Messrs. N. & R. Davis).—Refused.

*Means of Escape from Top of High Buildings.*

*City of London.*—On the top story of a block of offices known as Finsbury-pavement House, Finsbury-pavement (the upper surface of the floor of which story is above 60 ft. from the street level), for the persons dwelling or employed therein (Messrs. Davis & Emanuel).

*Finsbury, East.*—On the fifth floor of a warehouse building in course of erection at No. 88, Old-street, St. Luke (the upper surface of which floor will be above 60 ft. from the street level), for the persons dwelling or employed therein (Mr. A. Gordon).

*The recommendations marked † are contrary to the views of the Local Authorities.*

## THE LONDON COUNTY COUNCIL.

The weekly meeting of this Council was held at Spring-gardens on Tuesday, Mr. Torrance, Chairman, presiding.

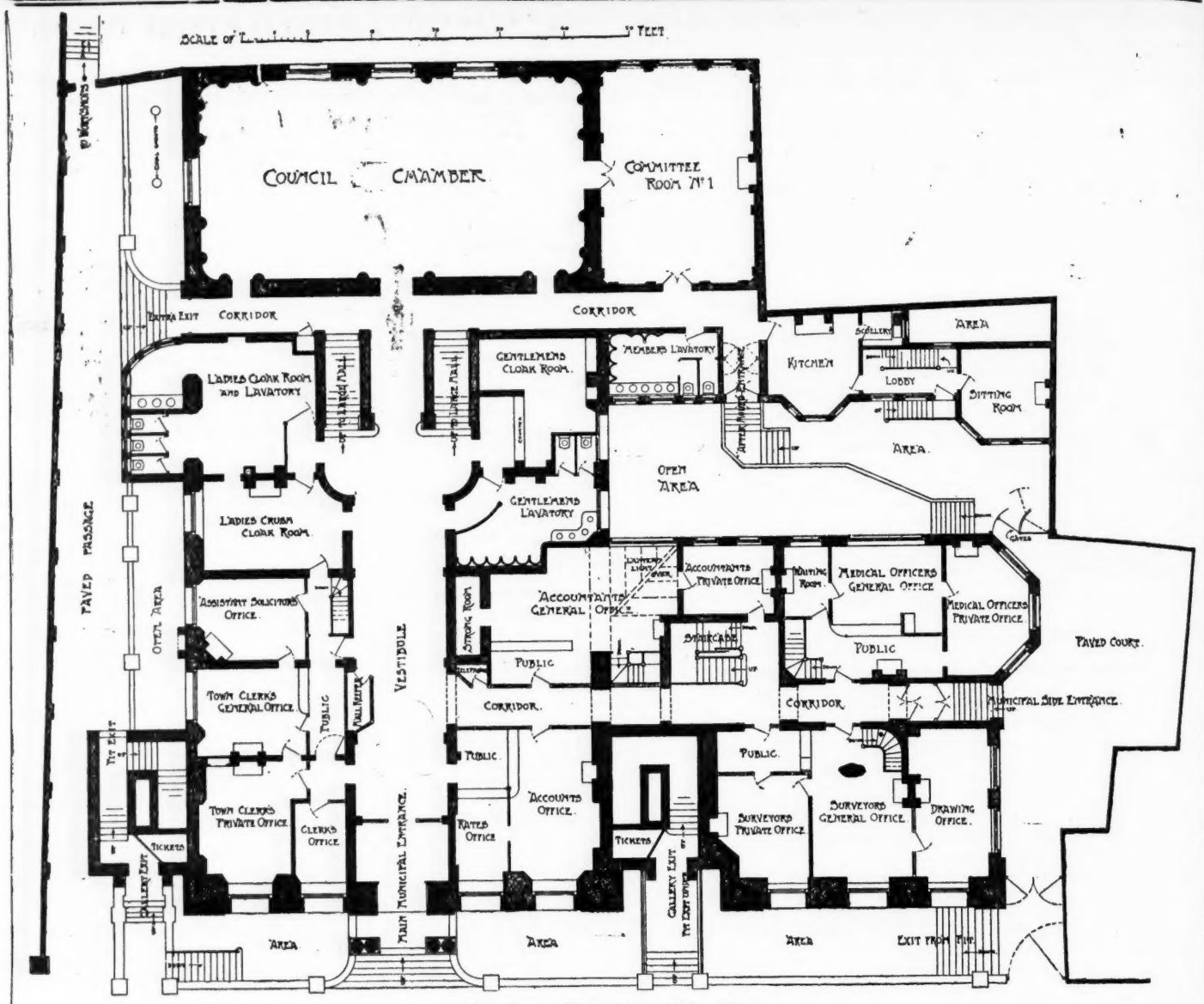
*Loans.*—The following loans were granted:—2,110*l.* to Battersea for extension of municipal buildings and 6,000*l.* for electric light installation; 4,500*l.* to Poplar for sewerage works; 20,000*l.* to Shoreditch for purchase of land for housing scheme; 4,000*l.* to Stepney for purchase of plant for street watering and sweeping; 3,300*l.* to Kensington for street lighting purposes; 31,320*l.* to St. Pancras for baths and wash-houses.

*The Works Department.*—On the recommendation of the Finance Committee 10,000*l.* was voted to the Works Department for the purchase of timber.

*Engineer's Department.*—The Establishments Committee reported the receipt of the resignation of Mr. Edward Bazalgette, District Engineer. It was accepted, and a retiring allowance of 413*l.* 6s. 8d. a year agreed to.

*The Piccadilly Improvement.*—The Improvements Committee submitted a Report on the circumstances which led to the postponement of the projected Piccadilly improvement. With regard to the alleged intention of the Council to destroy at least sixty trees, the Committee stated that the statement was erroneous; in fact, from the inception of the scheme the Committee never contemplated such an act of vandalism. The Council's plan provided that nearly all the trees should remain untouched on the edge of the new footway, the necessary space being left around them to entirely secure their roots against damage. If the formal consent of the First Commissioner of Works be given within two or three weeks, the Committee proposed to direct the Manager of the Works Department to put the work in hand at once.

*Staple Inn.*—The Local Government and Taxation Committee reported having received from the Commissioners under the London Government Act, 1899, copies of the Borough of Holborn (Staple Inn) draft scheme. This scheme was similar to those affecting Gray's Inn, Lincoln's Inn, and St. Peter, West-




*New Town Hall, Shoreditch. Plan.*

minster, as far as relates to the levy of the general rate throughout the Inn, to the transfer of the sewers to the Borough Council, and to the retention of the roads under the control of the owners of the Inn. The removal of house refuse was, however, not left to the owners, and instead of the amount to be recovered from the Borough Council in respect of roads being left to agreement or arbitration, the amount was fixed in the Staple Inn case at 50*l.*

The scheme, with the suggested addition of a qualifying word, was approved.

*Epileptic Colony.*—The Asylums Committee reported that they had accepted the following tenders for work at the Epileptic Colony, namely :—

| | | | |
|---|---|---|---|
| *Electric Light Installation.*—Messrs. Benham & Sons, Ltd. ..... | £6,252 | 15 | 7 |
| *Boilers, Pumps, and Fittings.*—Messrs. Babcock & Wilcox, Ltd. ..... | 1,170 | 0 | 0 |
| *Cooking Apparatus.*—Messrs. Morwood, Sons, & Co., Ltd. ..... | 918 | 0 | 0 |
| *Fencing.*—Mr. R. Mulford (estimated total) ..... | 1,052 | 0 | 0 |

The four contracts taken, amounting to 9,393*l.*, exceeded the Asylums Engineer's estimate for these works (9,150*l.*) by 243*l.*, but there was sufficient provision in the amount allowed in the vote for contingencies to cover the excess.

*Housing Schemes.*—Lord Welby stated that the Home Secretary, in conjunction with the Local Government Board, was considering various questions connected with the housing of the working classes, and that he would be ready to receive a deputation from the Council when Ministers meet later in the autumn.

LECTURES AT CARPENTERS' HALL.—We are requested to state that the Worshipful Company of Carpenters' examinations on "Sanitary Building Construction" will be held at Carpenters' Hall, London Wall, on November 21 and 23, and not on the dates given in the advertisement in our last issue.

## Illustrations.

### NEW TOWN HALL, SHOREDITCH.

THIS building, still in progress, is the latest of the new District Town Halls of London, of which no doubt other examples will follow as the local municipal work in the various districts becomes more important and extensive, and calls for greater accommodation.

In the case of Shoreditch it was at first thought that the old building, which, from a political and social standpoint, is historically interesting, should be adapted to modern requirements, but this was found to be impossible, and it was finally decided to buy an adjacent site, upon which should be built an entirely new structure in consonance with the architectural outline of the old one. Competitive designs were publicly invited from architects, and those submitted by Mr. William G. Hunt, of London, were placed first by the assessor and ultimately adopted by the Council.

The work has now been in hand some time, and the façade, which is in best brown Portland stone, is about one half built. The statue in the niche of the tower is to be symbolical of "Progress."

The floors throughout are of fire-resisting construction ; an interesting incident in connexion therewith is the fact that the residue from the Borough Council's own destructor, mixed with cement and sand, is utilised for forming the concrete in such floors. Considerable difficulty has been experienced with the foundations of some of the old walls which are intended to re-used and raised upon, the lower portion of the concrete foundations being found to be very unsound, which may possibly have been caused by the original lime concrete having been thrown into trenches containing matter which prevented its setting.

All the principal Administration Departments are arranged on the ground floor and are self-contained, each having its own distinct store, record and plan rooms, and lavatories in the basement approached by separate secondary staircases direct from each department. This system has been adopted by the architect in another London town hall, and is found to be of considerable convenience in the prompt and expeditious conduct of municipal business, besides the saving of much valuable ground floor space for more important purposes. The first floor is occupied by the large hall and several committee-rooms (one of them being 43 ft. by 22 ft.), with councillors' lavatories, &c.

The heating is by hot air in the large hall and council chamber ; hot water radiators in corridors, &c. ; and by ventilating grates in the offices.

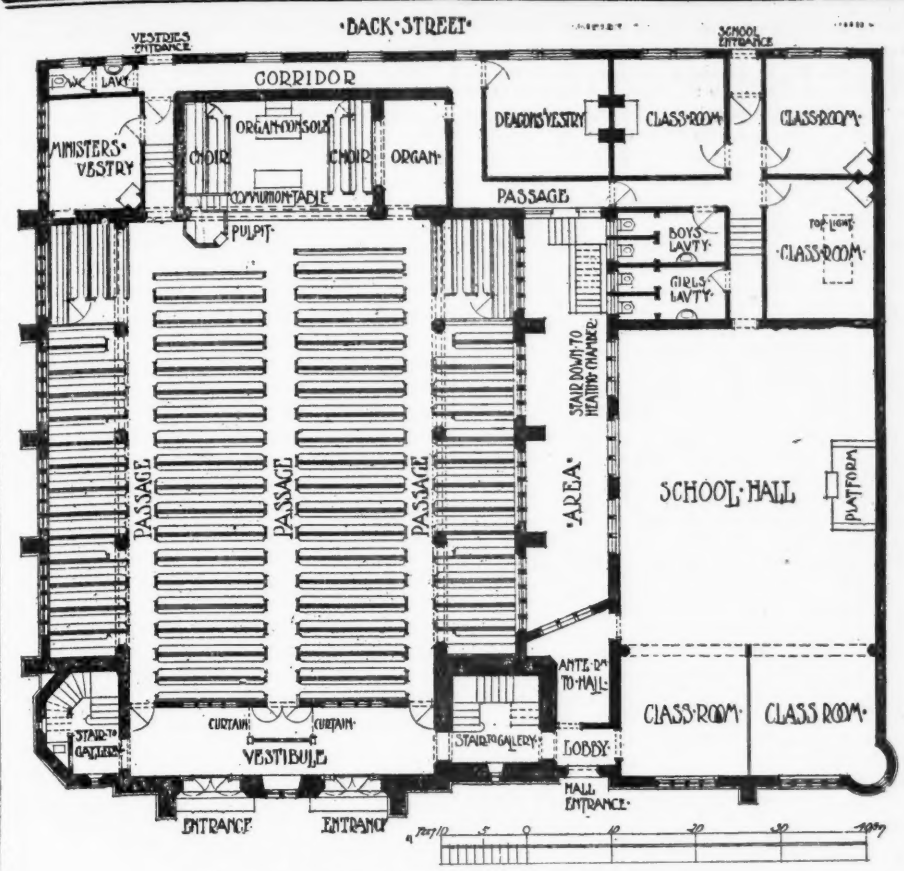
The quantity surveyors are Messrs. Raven & Crickmay, and the builders Messrs. Killby & Gayford.

It is not our usual custom to enter into criticisms of the designs and plans that we publish, but we fear that in the present instance we cannot omit a strong comment in regard to the manner in which the ladies' and gentlemen's cloakrooms are planned ; the door of the ladies' crush-room immediately facing that of the gentlemen's lavatory on the other side of a not very wide passage. Such an arrangement is worse than unsuitable ; it is hardly decent. Attention has been so often directed in our columns to the importance of arranging such rooms so as to keep their entrances completely separated from each other, that we really cannot pass over such an arrangement as this without remark.

### CLAREMONT CONGREGATIONAL CHURCH, BLACKPOOL.

THE plan shows the complete scheme of the building. At present only the nave, tower, and vestries are built, leaving the aisles, school-hall, and classrooms to be added later.

The walls are of brick, faced with local stone parpoints and York stone dressings. The roof




*Claremont Congregational Church, Blackpool. Plan.*

principals are of steel covered with moulded wood ribs and lined between with wood to the form of a pointed vault. The wood dado in the nave is of lining, and the chancel is panelled to a height of 8 ft. The seatings and finishings are of pitch pine, and the pulpit is of oak.

The church is lighted by electricity, and heated by means of hot-water radiators. Seating accommodation for about 440 is provided meantime, but the completed church will seat about 640. Externally the roofs are covered with red tiles, and the whole building is to be surrounded by an open oak paling.

The architects are Messrs. Anderson, Simon, & Crawford, Edinburgh, and the contractor for the general work is Mr. T. H. Smith, Blackpool; carving in wood and stone by Mr. J. J. Millson, Manchester; metal work by Messrs. Thos. Brawn & Son, Birmingham; heating by Messrs. W. Richardson & Co., Darlington; electric lighting by Mr. John Coulson, Blackpool.

The total cost of the church amounts to about 5,300*l.*

## NEW PAROCHIAL BUILDINGS, ST. JAMES-THE-LESS, BETHNAL GREEN.

THE small and inconvenient buildings in which the day schools in this parish were carried on have been superseded by new day schools and parish hall. A part of the site was previously occupied by the boys' school and playground, and the remainder formed part of the churchyard.

Over this a crypt was formed, in accordance with a faculty, and above the crypt a floor of steel joists and concrete covers nearly half the area of the new buildings. These consist of the parish hall, surrounded by five classrooms, which can be thrown into it by sliding back glazed screens, and affording sitting for 1,000 persons.

Girls' and infants' schools are accommodated in these and other classrooms on the ground floor, the boys' school being on the first floor with a separate entrance and staircase. The upper floor contains cookery school and drawing school in the eastern wing, and gymnasium in the western wing.

Red Staffordshire bricks have been used for facing, and Portland stone for dressings. The roofs are covered with red tiles, and copings, mouldings, and panels of moulded brick have been introduced. Two staircases of artificial stone flank this hall and give access to all floors.

Stained-glass and ornamental lead-glazing has been introduced in hall windows and marble mosaic paving in entrance corridors. The churchyard has been laid out as a recreation-ground.

Mr. E. Hoole is the architect, and Messrs. Coulsell, of Bethnal Green, are the contractors. The heating apparatus is by Messrs. Jones, the electric lighting by Messrs. Sunderland, the gas fittings by Mr. Harris, and the stained-glass by W. Whall, Esq.

Laminated arched ribs have been employed in the roofs of the parish hall and gymnasium, and tie beams and buttresses have consequently been dispensed with.

The total expenditure has been 16,000*l.*

## "HYLAS": DESIGN FOR STAINED GLASS.

THIS is a reproduction of a cartoon for stained glass which gained for the artist, Miss Geraldine Morris, a medal in what is called the "National Art Competition" in connexion with the Department of Science and Art at South Kensington.

We are always glad to meet with stained glass treating in an effective manner subjects which are suitable for secular or domestic buildings, as the art has been too much studied as if it were mainly applicable to churches. We cannot help observing, however, that Miss Morris's treatment of the legend of Hylas, a subject essentially Greek, is entirely devoid of Greek feeling; the "nymphs" are mediæval nymphs, not Greek ones. It would have been better to give it another title.

## *COMPETITIONS.*

NORTH LONDON HOSPITAL.—The Committee of Management of the North London Hospital for Consumption having asked five well known hospital architects to compete for the erection of their proposed Country Branch and Convalescent Home at Northwood, Middlesex, have selected the design submitted by Mr. Frederick Wheeler, of 6, Staple Inn, W.C.

THE LAND REGISTRY.—An amended Parliamentary return has just been issued in substitution for the annual returns of which we published an abstract in our issue of September 21. It seems that the returns were at fault in respect of the number of leasehold estates the titles to which had been registered upon first registration. The number of such estates was stated to be 781; the number should have been 8,781, according to the corrected return.

## Books.

*The Construction of Roads and Streets.* By HENRY LAW and D. K. CLARK, MM.Inst. C.E. Sixth Edition, Revised, with Additional Chapters, by A. J. WALLIS-TAYLER, C.E. London: Crosby Lockwood & Son. 1901.

AT a time when so much attention has been—and is likely to be—devoted to the question of road-making and the renewal of street pavements, the appearance of the present volume is distinctly opportune. As to the new form in which it is produced there is less reason for congratulation. The original work, written by the late Mr. Henry Law and Mr. D. K. Clark, two well-known civil engineers, was recognised as a thoroughly practical and trustworthy guide, although of late years it could not be regarded as applying in many respects to modern practice. As the preface remarks, "The original authors being both dead, it became necessary to entrust to another hand the duty of bringing it up to date," and the publishers consider themselves fortunate in securing the services of Mr. Wallis-Tayler for the performance of that duty. It is presumably intended to be inferred that this good fortune is due to the intimate acquaintance of the present editor with road-construction, but we are bound to admit that we have no knowledge of his qualifications in this direction, except such as may be gathered from the revised edition of the work now before us. We are by no means satisfied as to the desirability of "bringing up to date" the works of authors who are deceased. If preserved in their original condition, the productions of past generations are frequently useful as indications of the stepping-stones by which knowledge has been gradually attained, and they can seldom be adequately modernised without showing signs of patching, or without being "improved" out of all recognition. Examples demonstrating the correctness of this general criticism are, unfortunately, not lacking in the departments of architectural and engineering, as well as of literary work. As for the case in point, we feel sure the public would prefer a new treatise from an expert in modern road-making to the altered and re-decorated version of an old one.

Mr. Wallis-Tayler has been considerate to the original authors. The prefatory "Historical Sketch" by Mr. Clark, and Part I., on the "Construction of Roads," by Mr. Law, are reproduced practically without alteration, and comparatively little evidence is to be found in Part II., on "Recent Practice in the Construction of Roads and Streets," of the "careful revision throughout" promised in the preface. Consequently, the work is not adequately modernised. As an example we may take the first chapter of Part II., describing the "Materials Employed in the Construction of Roads and Streets." No objection can be taken to the original discussion by Mr. Clark of mineral substances, for very little that is new has been learnt about them, but one might expect some recent information as to timber under the sub-heading of "Wood." There is no mention whatever here of the Australian and other woods now so largely employed for street paving, and the tables relied upon to demonstrate the crushing resistance of timber and the endurance of wood-paving are dated 1877 and 1844 respectively. In the next chapter, on "Modern Macadam Roads," some remarks are made as to modern practice in connexion with metropolitan and country roads. These carry the subject beyond the stage reached by Mr. Law in the first part of the work. Nevertheless, it is somewhat curious to find that the most recent development described under the head of "Modern Practice" is an improved country road proposed in the year 1875 by a committee of the Society of Arts. Some details as to the wear and cost of macadam roads are next stated. These are interesting, but eminently archaic, being based upon reports and tables prepared between the years 1831 and 1876, and the price of road metalling quoted is that which prevailed a quarter of a century ago. The value of the data given is further diminished by the fact that they were obtained at a period when the steam-roller was not used in this country. Concrete roads laid in the years 1865-70 are discussed in a brief chapter from which no definite conclusion is to be drawn; and a short

dissertation follows on macadamised roads constructed in France about the year 1843. In none of the foregoing chapters do we find the slightest trace of the modernisation promised in the preface to the present edition. The same criticism applies to the sections dealing with stone pavements in London and elsewhere. Various forms of wood pavement receive more appropriate attention, and here the hand of the editor may first be observed in the renovation of old material. Prominence is properly given to the principal hard woods employed at the present time for paving purposes. According to Mr. Richards, of Sydney, jarrah and karri are not to be compared with the tallow and blackbutt woods of New South Wales, and it is important to note that the blackbutt imported to this country is the Victorian variety, which is less suitable than the former type. Mr. Richards considers tallow wood to be the best for paving purposes, whilst blue gum is said to be fully capable of holding its own, blackbutt and red gum coming next in order of superiority. Some interesting particulars are quoted as to the forest resources of Western Australia, the authorities being the Conservator of Forests and Sir Malcolm Fraser, the Registrar-General for the Colony. The editor's remarks upon the various processes incidental to the formation of wood pavements appear to be based upon papers contributed in 1884 to the Institution of Civil Engineers by Mr. G. H. Stayton, formerly of the Public Works Department, Sydney. The superiority of hard woods is wisely emphasised, and soft-wood blocks are properly characterised as unsanitary and expensive. The editor also advocates the adoption of creosoting or other preservative processes, not so much for the increase of durability as for rendering the timber less absorbent and therefore less likely to conduce to unsanitary conditions. This recommendation is worth attention, but the method of treatment adopted should certainly be one that removes none of the natural constituents of the wood, or its last state will be worse than the first.

Passing over the two succeeding chapters, which deal with matters of rather ancient history, we come to a collection of modern opinions on hard wood pavements. Some valuable particulars are quoted from a paper communicated to the Institution of Civil Engineers in 1893 by Mr. W. A. Smith, of the Bridges and Roads Department, Sydney; the "Proceedings" of the Municipal and County Engineers' Association are also freely laid under contribution; and the conclusions of some metropolitan surveyors are stated. All these constitute useful additions to the original treatise, and the editor's own remark that wood paving "should, to ensure sanitary conditions, be kept in a state of scrupulous cleanliness" may well be commended to the authorities, who seem to be impenetrably ignorant of this self-evident necessity. On the subject of preserved wood pavement the only satisfactory report quoted is one by the Surveyor to the Vestry of St. Martin's-in-the-Fields, dealing with carbolised wood blocks as applied in Northumberland-avenue and elsewhere in that district. "Other Wood Pavements" are described in a more or less historical manner, none of the records relating to a later period than 1876, except that of Duffy's dowelled pavement, adopted by Sir J. Wolfe Barry for the roadways of the Tower Bridge. The practical value of this pavement for ordinary use still remains to be completely demonstrated. There is a good deal of old matter in the chapter on the cost and wear of wood pavements, but at the same time some recent references are to be found, and a series of tables by Mr. Stayton contains much useful information, though a little out of date.

Chap. xix., on "Asphalt Pavements," furnishes a complete account of the different forms in which this excellent material is found in Nature and employed for the purpose of paving. Speaking of sheet asphalt paving, the editor does well to point out that "the concrete foundation is in reality the paving itself, the upper stratum . . . . being only the wearing surface," the duration of the road surface depending largely upon the quality of the foundation and upon the internal combination of the upper layer with its foundation bed. Several patented combinations of rock and Trinidad asphalts with other substances are described, most of these being manufactured in the form of blocks, but very few appear to have proved satisfactory. We observe that the questions of cost and upkeep are judged almost entirely by the aid of tables contained in a report by Colonel Haywood, dated April 18, 1873. Surely more recent data should be available by this time. A new chapter on "Brick Pavements" is only interesting in a limited sense, because the material is never likely to come into general use for the paving of roadways in this country. When the comparison of carriageway pavements is reached, much difficulty is experienced in deciding whether the estimates and statistics are those of the reputed author or the ostensible editor. Most of the tables printed date from 1873, and are evidently to be attributed to the hand of Mr. Clark. Statements of cost are given without any clear indication as to whether they be half a century old or of quite recent origin. This is a most serious objection, applying to a greater or less degree to the whole of the present edition. Such words as "the author," "recent practice," "modern practice," "now," &c., and the present tense are used generally without the slightest definition of the person or the period denoted. Whether it is desirable to attempt the rehabilitation of an old work is a matter of opinion; but if the thing is to be done at all, it should be carried out in a clear and intelligible way.

Chap. xxiii., presumably by the editor, deals very fully with footpaths and crossings, and will repay perusal. The remaining chapters are essentially those written by the original author, and so require no comment. A series of four appendices and an ample index bring to its conclusion an edition which, the preface says, cannot fail to prove of augmented usefulness and value. We believe it would better justify this prophecy if carefully revised.

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*Sewage and the Bacterial Purification of Sewage.* By Samuel Rideal, D.Sc. (Lond.), F.I.C., F.C.S., &c. Second Edition. London: The Sanitary Publishing Company, Limited. 1901.

The preface to the first edition of this book was dated May, 1900, and that of the new edition June, 1901. That a new edition should be required in little over a year must be gratifying to the author, but, as we pointed out in our review of the original work, Dr. Rideal deserved success, for his book is one of the best accounts of modern methods of sewage treatment. The scope of the book is wider than is indicated by the title on the title-page, and is better shown by the title on the cover—"Sewage and Sewage Purification"—or the running title in the text—"Sewage and its Purification." One or two small matters to which we drew attention have been corrected in the new edition, and additions, amounting in the aggregate to thirty pages, have been made in nearly every chapter. Dr. Rideal mentions the third report of the London County Council, and also the interim report of the Royal Commission on sewage disposal, but has not found it necessary "to alter the statement of principles" contained in the first edition, nor has he modified the favourable conclusions regarding bacterial treatment which he there expressed. He distinguishes the stages of purification as follows: — *Initial*, transient aërobic changes by the oxygen of the water supply; *first stage*, anaërobic liquefaction and preparation by hydrolysis; *second stage*, semi-anaërobic breaking down of the intermediate dissolved bodies; *third stage*, complete aëration, nitrification. His opinion of Dr. Houston's last report to the London County Council is thus stated: Dr. Houston's "conclusions must, however, be regarded as only applicable to beds worked in the way described. The chemical results taken generally show that nitrification was never pushed to a satisfactory point, and the main object of the whole inquiry in London has been to produce an effluent suitable to discharge into tidal waters." Dr. Rideal believes that bacterial treatment "conducted in regular sequence" will deal not only with domestic sewage, but also "with all ordinary manufacturing admixtures." We can heartily recommend the book as a learned and lucid treatise of great practical value.

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*The Sanitary Inspector's Handbook.* By Albert Taylor, M.San.Inst., &c. Third Edition. London: H. K. Lewis, 136, Gower-street, W.C. 1901.

We have already spoken favourably of an earlier edition of this work, and the new edition is still more worthy of praise. It has been extended and brought up to date by the inclusion of recent Acts of Parliament, legal decisions, and departmental circulars relating to matters within the province of the sanitary inspector, and by a full account of the examinations held by the recently-constituted "Sanitary Inspectors' Examination Board." An attempt has also been made to widen the scope of the work by including in it numerous references to the Public Health (Scotland) Act, 1897, but Scottish law and procedure are so different from English, that it is very doubtful whether the references will be of any use. Indeed, we are inclined to think that they will prove misleading; for example, on page 51 the list of nuisances is copied from the Public Health (London) Act, 1891, and reference is made to Section 16 of the Public Health (Scotland) Act, 1897, but nothing is said about the important differences between the lists of nuisances given in the two Acts. To the English sanitary inspector, however, the work cannot fail to be extremely useful. Mr. Taylor has had great experience both in London and the provinces, and imparts his knowledge clearly and concisely. Special hints with respect to nuisances arising from the keeping of animals, particularly swine, would have been of service, as such nuisances are very difficult to deal with, and we trust that this point will not be overlooked in the next edition.

## TRADE CATALOGUES.

Messrs. John Spencer, of Wednesbury, send us their list of iron and steel tubes for gas, water, steam, and hydraulic purposes. We are glad to observe that all tubes and fittings turned out by this firm are screwed to Whitworth's standard threads. This most important detail is not yet universal, even amongst the leading tube makers, and it is one that architects should always consider before issuing specifications. Weldless steel tubes, well tubes and tools, ventilating columns, and a variety of valves and other fittings are catalogued in the list, which is one of the most complete issued in this branch of industry.

Messrs. Knecht Brothers, of Cincinnati, send us a booklet descriptive of their friction sensitive drill-press, a light tool in which the driving mechanism consists of two cones and a friction roller. Thus the speed of the drill spindle can be altered without the necessity for stopping the machine or for shifting belts in the usual way.

Messrs. Bell Brothers and Dorman, Long, & Co., of Middlesbrough, send us a tastefully produced memoir, illustrated with photo-engravings and plans, giving historical sketches and other particulars of the extensive works established by these well-known metallurgical firms, which have lately been amalgamated. At the Britannia and West Marsh works the manufacture of iron has been entirely given up, and all material now rolled is open-hearth steel, of which a large proportion is rolled into girders. The bulk of the steel is made from Cleveland iron, partly at the Britannia and partly at the Clarence works. With the latter establishment Sir Lowthian Bell has been associated since its foundation in the year 1854. Amongst other interesting photographs are some showing the new Westinghouse works at Manchester, Messrs. Vickers, Sons, & Maxim's works at Sheffield, and bridges built for Uganda and for the Egyptian Delta Light Railway.

Messrs. Hartley & Sugden, of Halifax, send us a copy of their new catalogue of heating apparatus, boilers, and kindred appliances, Amongst these we notice several of recent design intended for hot-water and low-pressure steam-heating purposes. Some of the steam-boilers are furnished with automatic regulating devices of the kind adopted in American practice. It is worthy of comment that all the boilers of this firm are constructed of wrought-iron, and so are far less liable to failure than those of cast-iron, which manufacturers in the United States are now attempting to introduce in Great Britain.

Messrs. Keith & Blackman, of London, send us an illustrated pamphlet relating to their exhibits at the Glasgow International Exhibition. The appliances described include hot water boilers, ventilating fans, drying plant, hydraulic rams, compressors for high pressure gas lighting, &c. The system of lighting by high pressure gas was adopted in the exhibition grounds, where it proved to be particularly effective.

Messrs. Ransome & Co., of Newark, send us a copy of their new catalogue of wood-working machinery, a very complete and well-illustrated volume, containing engravings and full descriptions of a large variety of machines, many of which appear to be made from new and improved designs. The specialities dealt with in this catalogue are suited to forestry operations and to the requirements of almost every industry in which timber forms a material of construction.

The Electric Lighting Boards Company, of 80, York-road, King's Cross, N., have sent us a well-illustrated catalogue and price-list of their manufactures. We have already favourably commented on this system of electric lighting, which is admirably adapted for many special purposes. For example, if one of their boards or strips is fixed into a dining-room table, and a standard lamp pillar of their design, with two needles projecting at the base, be placed on the tablecloth over it, the glow lamps on it will at once light up. Their lighting strip is also useful for cornices and dado-rails, doing away entirely with the necessity for lamp holders and sockets. Its most useful applications, however, are for shop-window lighting and theatrical purposes. As a strip of carrying capacity for thirty lamps can be had at 1s. 9d. per foot, it will be seen that this method of wiring is an economical one.

We have received from the General Electric Company, of Queen Victoria-street, an illustrated leaflet of their novelties for October. They show a neat little automatic telephone time-recorder, which ought to prove useful to business people, as it tells how the three minutes' time allowance for conversation over trunk lines is passing. Another useful novelty illustrated is the "Robertson Sunshine" lamp, which has been designed for lighting streets. It is a glow-lamp with a detachable opal glass reflector, so that when the lamp is burnt out the reflector can be used with a new lamp. It has two short rigid filaments in series, so that vibration ought not to have much effect on it, and as they can be used for a 250-volt supply, the cost of wiring will not be a heavy item.

Messrs. Ritchie & Co. send us a price-list of their "Lux-Cuber" condensing gas stoves. Some stoves are made to give a luminous flame, while others give a non-luminous flame. As all the heat generated by combustion of the gas is utilised, these stoves form economical and convenient heating agents for halls or conservatories. The claim of "absolute freedom from the least possible pollution whatever of the air of the room in which it (the stove) is used, and that without any chimney or flue," is absurd. A large proportion of carbon dioxide is always present in the products of combustion of coal-gas, and although a small quantity of it may be found in the liquid which condenses in the stove, the greater part of it escapes from every saleable form of condensing stove into the atmosphere of the room. These stoves are excellent for certain purposes, but we do not agree that they are suitable for use in schoolrooms. No flueless gas fire should, in our opinion, be admitted in any schoolroom or other place of assembly.

## BOOKS RECEIVED.

HARDHAM CHURCH AND ITS EARLY PAINTINGS. By Philip Mainwaring Johnston. (Reprinted from the Sussex Archæological Society's collections.)

WIRELESS TELEGRAPHY: A POPULAR EXPLANATION. By G. W. de Tunzelmann. (Office of *Knowledge*.)

FILIPPO DI SER BRUNELLESCO. By Leader Scott. (George Bell & Sons.)

THE WATER SUPPLY AND SEWERAGE OF COUNTRY MANSIONS AND ESTATES. By E. Bailey-Denton. (E. & F. N. Spon.)

THIRTIETH ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD. (Eyre & Spottiswoode.)

THE JOURNAL OF THE SANITARY INSTITUTE: October, 1901. (E. Stanford.)

THE "MECHANICAL WORLD" POCKET-BOOK AND DIARY FOR 1902. 6d. (Emmott & Co.)

SCHOOL BUILDINGS, BELHELVIE, N.B.—These buildings were recently reopened, after having been extensively remodelled. The schools will now accommodate 160 pupils. A large central hall has been provided, through which the children pass to their various departments. This hall will also be a great convenience for drilling. The contractors for the works were:—Mason, Mr. William Mitchell, New Pitsligo; carpenter, Messrs. Edward & Rae, Dyce; slater, Messrs. Moir & Scrogie, Newburgh; plumber, Mr. R. Malcolm, Aberdeen; plasterer, Messrs. J. Scott & Son, Aberdeen; painter, Messrs. J. & S. Fyfe, Aberdeen. Messrs. Brown & Watt, of Aberdeen, were the architects.

# Correspondence.

*To the Editor of* THE BUILDER.

## WORKMEN'S COMPENSATION ACT.

SIR,—In your note on this subject in your last issue, October 12, you raise the question whether workmen should not be compensated for loss of health in pursuing their calling; and you instance the painter as one whose health may be seriously injured. There are probably to be found a few persons whose constitutions render them extraordinarily sensitive to lead poisoning; but as this would be evident within a few months of their beginning to exercise the vocation of painter, such persons would obviously be very foolish to persist in an occupation for which they are physically unfit.

But it is now quite well understood that, for the ordinary painter, health, so far as his employment is concerned, is entirely a matter of personal cleanliness, and of sobriety as affecting cleanliness. The man who always washes his hands before leaving his work (as all good painters do), and does not therefore contaminate his food, is as healthy a man as the joiner or mason, and, within my experience, as long lived. There could be no more cruel mistake than to undermine the painter's reliance on his own caution by placing before him the expectation that, if his health suffered by laxity in this respect, "compensation" would be forthcoming—I say nothing of the prospect of sham claims.

J. D. CRACE.

## THE SAD CASE OF SIR SIMON LEACH—HIS MONUMENT.

SIR,—The remote village of Cadeleigh, not far from Tiverton, in Devon, possesses an interesting village church, the crowning glory of which is a magnificent Jacobean monument with life-size sculptured figures, surmounted by a heavy canopy, a most complete and handsome example of the gorgeous Renaissance period. The monument was erected by Sir Simon Leach, a quondam Sheriff of the County, to commemorate himself and his descendants, and in order to keep his memory green he left also a sum of money to keep the monument in repair.

Ill-fortune, however, attended the family, and it is now, I believe, quite extinct in the direct line. The family mansion is a humble farmhouse, and the money that was left to keep the tomb in repair, although invested in land, has been allowed to lapse, for the incredible reason that no trouble was taken to collect the rent in the sleepy meridian of the last century.

When I saw the tomb a few weeks ago it was doomed to destruction. The canopy was falling backwards, and was endangering the fabric of the church, and in a fortnight for safety's sake was to have been removed. For the time being the parish authorities are holding their hands, while I am doing my best to arouse interest in what is the finest example of the period in Devonshire.

The tomb commemorates a Devon worthy, and it will be a standing reproach if it be destroyed or allowed to be removed from the church in which he worshipped, and in which he desired to rest with his wife and children. The cost of underpinning and preserving the monument will be only 80*l.*, of which about 25*l.* has been promised.

The parish is very poor and the population small. May I appeal through you to the many lovers of the ancient and picturesque relics of our country for help in the work of preservation. It is not desired to restore, only preserve. Many Devonians in London will, I am sure, send a small subscription for the sake of the old county; the most trifling sum will be gratefully received by Miss Chichester, Calverleigh Court, Tiverton, or by

PRESCOTT ROW.

*The Homeland Association, 24, Bride-lane, Fleet-street, E.C.*

## WREN'S CITY CHURCHES.

SIR,—I much regret that the materials of any of Sir Christopher Wren's beautiful churches should be sold by auction, probably for very nominal sums, and would suggest that they should be removed and rebuilt on suburban sites, where churches are required. This would not only avoid the loss of these excellent churches, but would probably prove economical. The proposed demolition of the church of St. George, Botolph-lane, to which you refer, would afford a good opportunity for carrying out this plan.

C. B. A.

"ROMANO'S" RESTAURANT, STRAND.—This property—Nos. 399-400, Strand—was erected as the Café Vaudeville, after Mr. W. Emden's designs, in 1894-5, for Mr. A. N. Romano, lately deceased. In terms of an order of the Court, issued in the suit of Berkeley v. Romano, the restaurant was offered for sale at auction at the Mart on the 2nd inst. It was withdrawn, however, after a solitary bid of 20,000*l.* had been made.

# The Student's Column.

## GAS AND GAS FITTINGS.

### 16.—COOKERS, WATER HEATERS, GEYSERS, AND GREENHOUSE BOILERS.

COOKERS.—Gas-cooking appliances are now universally used in all towns provided with a public gas supply, and vary in size from the small griller used in workmen's tenements in conjunction with the penny-in-the-slot meter to the imposing "cookers," over 6 ft. in height and in width, used in many hospitals, hotels, and business premises where meals have to be provided for several hundred persons. For a long period an unreasonable prejudice existed amongst the general public against the use of gas for cooking, but this has gradually been overcome, and gas is now recognised as a more perfect cooking agent than coal. The fact that gas-cooking appliances have been introduced into a great number of hospitals and asylums has satisfied the general consumer that the use of gas for cooking will not result in untimely decease, and the number of cooking-stoves lent out on hire by gas companies has increased rapidly during the past few years, the total number of cookers in use in the United Kingdom being now over 800,000.

A glance through the catalogues issued by the principal firms of gas stove manufacturers will show that cookers are now made to meet almost every conceivable requirement, but a detailed description of these cannot be given in these columns. The ovens should be provided with a jacket or case filled with slag wool or other suitable non-conducting material in order to economise the heat as much as possible, and the interior of the oven should be enamelled to render cleaning less troublesome.

*The Odour emitted from Gas Stoves.*—When a gas flame comes in contact with, or in very close proximity to, a cold surface the flame becomes cooled, and emits a disagreeable odour owing to the fact that incomplete combustion of the gas then occurs. With many stoves and fires this odour is perceptible for the first few moments after lighting, but is no longer emitted when the stove becomes hot. A similar odour is emitted when the flame flashes back and burns within the mixing tube, owing to incomplete combustion caused by the cooling action of the metal tube and the limited volume of air admitted to the flame. When a cold sheet of metal, such as the bottom of a kettle filled with cold water, is lowered into a flame the odour is at once perceptible, and continues to be emitted until the metal becomes sufficiently hot to allow the flame to rise again to the temperature necessary for complete combustion.

A frequent cause of unpleasant odours from cookers is the accumulation of dirt or grease upon them. Unless a cooker is kept scrupulously clean, it is certain to emit a disagreeable odour immediately the fatty matter becomes strongly heated, and in many cases the odour is distributed over the building by the down-draught from a defective flue. Gasfitters frequently assure their employers that a flue for a cooker is quite unnecessary, but it is a foolish practice to use any appliance consuming a large volume of gas without providing means for the removal of the combustion products.

*Position of Flue.*—The flue should, where possible, be carried from the stove into an existing chimney having a good natural up-draught. If the flue be carried through a side wall of a room which also contains a chimney, the up-draught of the chimney is apt to produce a "pull" on the wall orifice and draw air down the stove flue instead of allowing the combustion products to escape. A flue of this description is worse than useless. With an efficient flue and a clean cooking-range, with flames not too close to cold surfaces, a gas cooker is as free from smell as a coal fire.

*Water Heaters and Geysers.*—When coal-gas is consumed under the best conditions carbon dioxide is formed, and as this gas is not a supporter of animal life, it should be conducted from the room by an efficient flue. When a gas flame is cooled by contact with a cold surface an intensely poisonous gas, termed carbon monoxide, is formed, owing to the fact that the flame temperature is not sufficiently high to cause the complete oxidation of the carbon in the decomposing hydrocarbons of the coal-gas. Carbon dioxide, the product of complete combustion, will not support animal

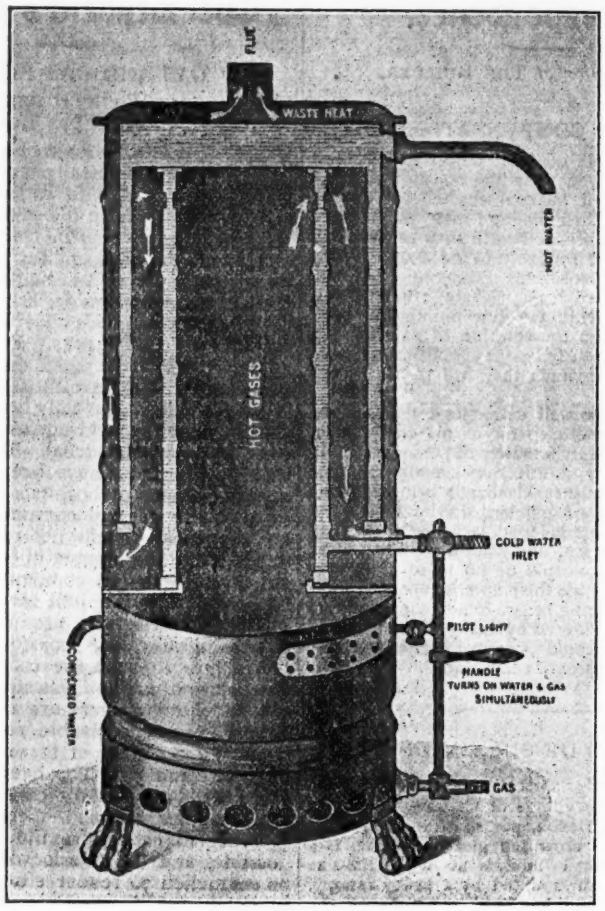


*Fig. 41.—A Rapid Water Heater.*

life, but it does not possess the poisoning activity exerted by carbon monoxide. Carbon monoxide has no odour, but when incomplete combustion of the gas occurs other products are simultaneously formed which emit a very penetrating odour and give warning that the poisonous carbon monoxide is being generated. The "smoke" from a coal fire contains both carbon monoxide and carbon dioxide, together with a number of objectionable compounds which are not present in the products of combustion from the purified coal-gas supplied in our towns, but if the visible "smuts" were not present in coal smoke, there is little doubt that a grate would soon be placed on the market with the assurance that coal might be consumed in it with perfect safety in a room not provided with a chimney. Some water heaters are used in bathrooms without any flue, and do not evolve any perceptible odour; while others always produce a disagreeable smell, and have upon several occasions been the cause of death to persons exposed to their influence. In the former cases complete combustion of the gas is effected, while in the latter the combustion is not complete. The fact that bath water heaters are often used in small rooms without exerting any *apparent* prejudicial influence does not necessarily prove that the combustion products are harmless even when complete combustion occurs, and as it is known that carbon dioxide is not a supporter of animal life, it is a wise precaution to always provide means for its withdrawal in such small rooms as bathrooms of average size.

When an indication of the occurrence of incomplete combustion is obtained by the generation of the characteristic odour emitted by the compounds formed under such condition, it is mere folly to continue the use of the water heater without a flue.

*Bath Heaters.*—A good gas water heater or "geyser" is the cheapest and most convenient agent for heating water for baths. Where possible, the water heater should be fitted outside the bathroom, and the principal manufacturers of water heaters supply appliances which can be fitted in any part of the building, and be arranged to distribute hot water to any or every room in the house. It should be remembered, however, that the greater the length of pipe through which the hot water has to travel the greater is the proportion of heat lost.

Water heaters may be used in small rooms with perfect safety if connected to a flue, and if the precaution be taken to ascertain that a strong up-draught exists in the flue even when the gas is not burning.

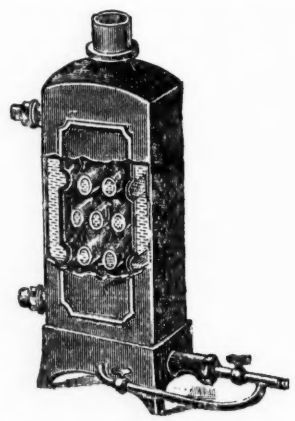

*Fig. 42.—Greenhouse Boiler.*

An appliance known as a "geyser" is usually employed for heating bath water. The water is rapidly heated by causing it to travel over a large surface of heated metal, the heat of the waste products of combustion being utilised as completely as is practicable. The apparatus is, as a rule, constructed of copper, and should be kept as clean as possible. So many excellent water heaters are now made by a number of competing firms that it would be impossible to describe them all, and an illustration of one must serve to indicate the general principles upon which water heaters are constructed; but the fact that they are so largely in demand is sufficient evidence as to their utility. Some water heaters are manufactured in which the products of gas combustion come in contact with the water, and contaminate it to a certain extent with soluble impurities. The efficiency of such heaters is very high, but water so heated is not to be recommended for drinking, cooking, or bathing, although it may be used for many other purposes.

Richmond's "Gulf Stream" water heater (fig. 41) is a good example of a rapid water-heating appliance.

The water and gas are turned on simultaneously by manipulating a handle, so that no trouble can arise through forgetting to turn on the water after lighting the gas. A pilot light is also provided which prevents any explosion taking place when the main gas burners are lighted. These water heaters are not intended to actually boil the water, but merely to rapidly raise it to a scalding hot temperature. The rate of gas consumption is necessarily high, but as a large volume of water is heated in a few minutes, it is not usually necessary to keep the gas burning for a long period. With the "Gulf Stream" water heater the consumption is 70 cubic feet per hour, but hot water will be delivered from it in two minutes after the time of lighting and will continue to be delivered as long as the gas is kept burning. The rate of water flow and the rate of gas consumption are simultaneously regulated by manipulating the handle.

*Boilers.*—For heating water to a boiling condition with the aid of gas, boilers are made in all sizes in copper or galvanised iron. They are sometimes fitted with cross tubes around which the flames and hot products of combustion pass. They form, in fact, a description of multitubular boiler, and although when first lighted they may evolve the disagreeable odour due to incomplete combustion, the odour ceases to be emitted as the temperature of the tubes increases. With a good boiler 10 gallons of cold water may be boiled in half an hour with a consumption of 25 cubic feet of gas.

In some cases baths are heated by gas burners placed beneath them, the water being made hot while the bath is being filled. This arrangement is apt to damage the bath and is much inferior to a good geyser.

*Greenhouse Boilers.*—Gas is not an economical agent for heating large greenhouses, but it is exceedingly useful for maintaining a uniform temperature of any required degree, and for small greenhouses its cost is not as a rule prohibitive. The products of combustion must not be allowed to accumulate in the greenhouse, as they exert a prejudicial influence upon plant life. The sulphur compounds, which appear to be the most injurious, may, however, be eliminated to a considerable extent by the use of condensing stoves, and these are often used in greenhouses without a flue.

In order to heat a greenhouse uniformly it is necessary to use hot water or steam circulating pipes. A cast-iron apparatus suitable for heating water pipes known as Arden Hill's "Acme" Greenhouse Boiler, is shown partly in section in fig. 42. It is equally adapted for the heating of conservatories, workshops, or halls. The cross tubes are heated by the ascending current of hot combustion products, and a higher heating efficiency is obtained than when an ordinary boiler is employed.

In every description of gas-heating apparatus the burners and the heated metal must be kept scrupulously clean, and the flames should not be allowed to come in contact with a cold surface.

## THE NEW ST. PANCRAS BATHS.

THESE baths, which comprise four swimming-baths and 129 slipper-baths, together with a public wash-house with fifty washing compartments, were opened last week. There are two entrances in Prince of Wales'-road for first and second class men bathers respectively, with a pay-box between them. These entrances lead directly and without corridors to the two men's swimming-baths and to the slipper-baths. In the Grafton-road are two entrances, one for women bathers and one for the public wash-house.

The men's first-class swimming-bath is 115 ft. 6 in. long and 50 ft. wide, the bath pond being 100 ft. by 35 ft. The hall is lined with glazed bricks, the sides of the swimming pond with Balaam's patent white glazed bricks, specially designed for baths, and the floor with terrazzo. The gangways are 4 ft. wide at the sides and 6 ft. wide at the ends, and are paved with terrazzo, the nosing to the bath pond being in marble. There are eighty dressing-boxes, all made to remove during the winter. The depth of water in the pond ranges from 3 ft. 6 in. to 7 ft. At the deep end of the bath is a large diving-stage. An overhead shower is provided by means of sprays from the ceiling. The ceiling of the bath has been designed upon a completely new principle. Hitherto all bath ceilings have had a ventilating skylight in the centre, which causes a considerable echo of the water splashing in the bath. In this instance there is a curved ceiling of trefoil section with curved glazed inner sashes on each side and external skylights over. It is expected from this arrangement that the splashing echo will be avoided. But beyond this, and of equal importance, the curved ceiling, without a lantern skylight, will give much better acoustic qualities to the hall, especially for

concerts, &c., during the winter. The bath is warmed and ventilated upon the "plenum" system. Cold fresh air is taken in at a main inlet in Grafton-road, and is driven by a fan through a steam heater, and thus warmed enters the hall at the floor level, and passes out through a large outlet in the ceiling. In addition to this, and with a view to preventing that condensation which is so common an evil in all swimming-baths, there is a supplementary plenum apparatus, which delivers warmed fresh air at the ceiling level. In the men's second-class swimming-bath the bath pond is the same size as in the first-class bath. The internal finishings are, of course, not equal, but otherwise all the accommodation is practically the same. The ladies' first-class swimming-bath is 97 ft. by 40 ft., with a swimming-pond 75 ft. by 25 ft. All the internal finishings to this bath are similar to the men's first-class swimming-bath, and in some cases rather better. An effort has been made to make this bath very bright and cheerful. There are forty dressing-boxes tastefully fitted up with curtains and looking-glasses, and also two douches, and a neatly furnished dressing-room, with lavatory, settee, and toilet-table and looking-glass. The ladies' second-class swimming-bath has a swimming pond 50 ft. by 20 ft. The arrangements are similar to those in the first-class bath, with somewhat less finish.

There are 129 slipper baths, twenty-nine men's first-class, sixty-five men's second-class, ten ladies' first-class, and twenty-five ladies' second class. The accommodation in all these slipper baths is of the same character, except that for the first-class baths the partitions and doors are of enamelled slate, and for the second class painted slate. The baths are of glazed fireclay with teak rolls. (Teak rolls have been adopted in place of glazed rolls as being safer.) Each bathroom has a seat, a good sound looking-glass, with shelf, and two hat pegs, together with footboard and cork mat. The bath valves are of the manufacture of Messrs. G. Jennings & Co., and work from both inside and outside of bath, and are so designed that hot water cannot be turned on until the cold water has been set going, thus preventing scalding and damage to the baths. Six of these baths are provided with hot and cold showers. Good waiting-rooms are attached to all slipper baths.

*Public Wash-house.*—The public wash-house is entered from Grafton-road, and comprises fifty washing compartments, fifty drying horses (heated and ventilated on the "plenum" system), and a mangling and ironing room. The hydro-extractors in the public wash-house are driven by hydraulic power direct, without belting, and are fitted with automatic covers, so arranged that the cover is closed while the hydro is at work, and is only open when it is at rest. This will prevent accidents. The ironing-room has two mangles, folding-tables, and ironing-tables. Electric irons will be used. In connexion with the public wash-house is a crêche, also a large waiting-room and cloakroom.

*Administrative Departments.*—There is large boiler house, with three Galloway boilers 30 ft. by 7 ft., and an economiser. These boilers will provide steam for warming the water in the swimming-baths, and in connection with the heating apparatus and hot-water supplies generally. The superintendent of the baths has an office close to the men's entrance, and a residence on the second floor. There is a large committee-room on the first floor, which will also be used as a lady artistes' room during the winter. The establishment laundry is in the basement, and will be worked by men only. There is one Baker's washing-machine, two hydro-extractors, seventeen drying-horses, boiler, and rinser and vertical mangle. A large towel store is provided near this laundry. There is a complete system of subways in the basement for the purpose of administration, and these are in connexion with the superintendent's office and residence and boiler-house, establishment laundry, and towel store. All trolley work in connexion with towels, bathing-drawers, &c, will be done in the basement. The clean towels will be brought by lifts direct into the pay offices, and all dirty towels, &c., will be sent through glazed brick-lined shoots down into the basement. It is expected that a considerable saving in the cost of administration will be the result of this arrangement. Two refreshment-rooms are provided, one for men and one for women, near their respective entrances. The warming and ventilation of the men's first-class swimming-bath have already been described. All other departments are warmed by means of low pressure hot-water apparatus, and ventilated by means of Davidson's "Sirocco" fans electrically driven.

The elevations are all faced with Lawrence's red brick with terra cotta bands, corners and dressings. The whole of the buildings are of fire-proof construction throughout, there not being a timber floor joist in the whole building. The walls of the main departments, including all swimming baths and slipper baths, are lined with white glazed bricks with salt glazed brick dadoes. All pavings except to basement are laid in terrazzo. All wood floors are in herring-bone solid wood blocks. The whole of the internal wood, iron and slate work has been painted with "Ripolin" enamel paint. The buildings throughout are lighted by electricity. Also, with the exception of the hydraulic work, all motive power is supplied from electric motors. Two artesian wells are being sunk on the premises, which it is hoped will yield between them about 25,000 gallons of water per hour.

The cost of the buildings, together with all machinery and fittings, has been about 75,000*l*. The strictest economy has been exercised in the construction and finish of these buildings, and no attempt has been made at elaborate architectural display internally or externally.

The building contractor is Mr. C. Wall, of Chelsea. The chief engineering works have been carried out by Messrs. Z. D. Berry and Sons. The hydraulic work and plenum ventilation has been executed by Messrs. W. J. Fraser & Co. The electric lighting has been carried out by Messrs. Edmundsons. Messrs. Doulton & Co. executed the terra-cotta work, Messrs. W. B. Simpson & Sons the faïence work, and Messrs. Diespeker & Co. the terrazzo work. All skylights are laid with Rendle's patent glazing. The glazed fire-clay baths were supplied by the Farnley Iron Company. The internal sanitary fittings have been supplied by Messrs. Tylor & Sons. The wood block flooring was supplied by the Westminster Flooring Company. The gearing for opening the fanlights is supplied by Messrs. Jones, Lock, & Co. The whole of the slating and slate masons' work, including enamelled slate partitions, are by Messrs. Shenton, of Kentish Town.

The architect is Mr. T. W. Aldwinckle, who had the assistance of Messrs. Dolby & Williamson as consulting engineers in connexion with the electric lighting. Mr. E. T. Larkin has acted as clerk of works throughout. The design and plans were illustrated in the *Builder* for September 23, 1899.

## THE PLUMBERS' COMPANY AND APPRENTICESHIP.

THE Committee of Representatives of District Councils for the following places:—Belfast, Birmingham, Bradford, Cardiff, Dublin, Edinburgh, Glasgow, Leeds, Liverpool, Manchester, Nottingham, Plymouth, and Sheffield, acting in conjunction with the Plumbers' Company, deem it highly desirable a prescribed apprenticeship or course of training should be recognised in connexion with the National Registration of Plumbers.

A special form of indenture has been prepared for the purpose by a conjoint board composed of representatives of the London Society of Associated Master Plumbers, the United Operative Plumbers' Association of Great Britain and Ireland, and the Plumbers' Company. The indenture is based on the form of indenture authorised by the Corporation of the City of London, and approved by the Court of Chancery. It includes definitions of the character and scope of the work of the registered plumber and of the term "sanitary plumbing," as approved by the Parliamentary Committee on Trade, in order that the sanitary bearing of the work of the registered plumber may be generally recognised by plumbers, as well as by architects, health authorities, and others, as constituting the reason for the registration system and the ground of the application for statutory powers to be conferred on the registered body.

These definitions are in the following terms:—"The trade of a plumber and the art of sanitary plumbing, including all branches of the said trade or of the said art which require technical knowledge of water fittings and other sanitary appliances, and skill to construct and adjust the same in such a manner as to prevent the contamination of air or water in dwelling-houses or other buildings by emanations from drains or sewers."

Covenants are included expressly providing for:—1. The attendance of the apprentice at approved classes of technical instruction. 2. The apprentice presenting himself for annual examinations in technical knowledge and workmanship in conformity with such rules and regulations as may from time to time be prescribed in connexion with the National Registration of Plumbers. 3. The cancelling of the indenture after due notice to the parties, in the event of the apprentice failing to pass a satisfactory examination in the third year of his apprenticeship, provided such cancelment be recommended by the examining body.

It is recommended that this form of indenture (subject to such modification as may be necessary to meet special cases) should be generally adopted with a view to a uniform qualification being established for the purpose of the National Registration of Plumbers. It is also recommended that a Register of Apprentices should be kept in each district.

A corresponding form of indenture is prepared adapted to the requirements of Scotch law.

WATER SUPPLY, BRIDGWATER.—Colonel A. J. Hepper, on behalf of the Local Government Board, recently sat in the Council Chamber to hear an application by the Bridgwater Rural District Council for sanction to borrow sums amounting to 24,000*l*. for the purpose of a water supply for the parishes of Bawdrip, Chedzoy, Huntspill, North Petherton, Pawlett, and Puriton, including the construction of works in the parishes of Bridgwater Without, Broomfield, Chilton Trinity, and Goathurst. The principal evidence was that of medical officers of health, who stated that the water in each parish was very impure

## *OBITUARY.*

MR. T. HARPER-WALLIS.—We have to record the death, at Littlehampton, of Mr. Thomas Harper-Wallis, of Market Rasen, an octogenarian Lincolnshire builder, who leaves the unique record of having built and restored more than thirty churches and parsonages in his native county alone from designs of the late Messrs. Ewan Christian, G. E. Street, Jas. Fowler (Louth), and others.

## *GENERAL BUILDING NEWS.*

CHURCH HALL, BARRY, N.B.—A hall erected in connexion with the parish church of Barry has recently been completed. The building, erected from plans prepared by Mr. Jas. P. Bruce, architect, of Carnoustie, stands on the site of the parochial school, at the south end of Barry Brae, and is entered by a large open porch. The style of architecture adopted is a free treatment of Gothic. The hall has accommodation for 200 people, besides a large platform and anteroom, with lavatory accommodation in connexion. The building is heated by hot-water pipes on the low-pressure system, and ventilated by the "Boyle" system. Internally the walls are lined with pitch-pine lining 6 ft. high, having hinged divisions, whereby the hall can be divided into separate compartments for the use of Sunday school classes. The contractors were:—Mason, Geo. Robertson; joiner, Geo. Fox; plumber, John M'Andrew; slater, Alexander Hogg; lather, James Fyffe; plasterers, M'Ritchie & Co.; smith work, R. Crighton; ventilation, Robert Boyle & Son, Limited; heating, Wm. Nicoll; glaziers, Donald & Smith; painters, P. & A. Davie.

NEW BUILDINGS IN THE STRAND.—Messrs. Ernest Runtz & Co. are the architects of the temporary premises that have been erected for "Short's" upon the site of the Coach and Horses Tavern, Nos. 323-4, Strand. The tavern, rebuilt in 1888-9, after Mr. W. T. Farthing's designs, had been pulled down for the improvements now being carried out on the area between Newcastle and Catherine streets. The new temporary premises have an uncommon elevation, being built after the half-timbered style, and we gather that a large amount of timber taken from the demolished houses was utilised in their construction. The Gaiety Theatre Company have taken from the London County Council a lease for fifty years of the site for their new theatre, to be designed also by Messrs. Ernest Runtz & Co., and into which they hope to remove within eighteen months hence. The Company have undertaken to expend 50,000*l*. upon the building, but anticipate that the cost will amount to about 15,000*l*. more. The Company have received 25,000*l*. in compensation for dispossession from the County Council, who, it appears, will also provide the 50,000*l*. for the new house.

BUILDING IN FLEET-STREET.—We gather that Messrs. Gibbs & Flockton prepared the plans and designs for the new London offices of the *Sheffield Telegraph*, for which a site has been cleared at the corner of Fleet-street and Fetter-lane.

DRILL HALL, BILSTON.—The new drill hall of the G (Bilston) Company of the 3rd Volunteer Battalion South Staffordshire Regiment has been erected in Mount Pleasant, Bilston, on a site presented by Sir Alfred Hickman, M.P. The accommodation provided comprises an office, sergeants' room, residence for sergeant-instructor, armoury, drill hall, and kitchen, lavatories for officers and men, &c. The exterior of the building is faced with red bricks with Hollington stone dressings, and the roofs are covered with red tiles. The drill hall is 75 ft. long and 40 ft. wide, lighted from the top. It has a dado of salt-glazed bricks, and the floor is formed of wood blocks. The building is heated by hot water, and wired for electric light, which will be installed as soon as the supply is available. In the meantime provision has been made for lighting by gas. The builder is Mr. Thomas Tildesley, of Willenhall, who has carried out the work in a satisfactory manner. The architect is Mr. Henry T. Hare, Hart-street, Bloomsbury-square, London.

PUBLIC SLAUGHTERHOUSES, BARROW.—New slaughterhouses have been erected by the Barrow County Council at the north-east end of Cavendish-street and adjoining the electric light station and the refuse destructor, at an estimated cost of 18,000*l*. The building is erected to the designs drawn by Mr. W. H. Fox, the Borough Engineer, but only about two-thirds of the scheme is being carried out at present.

LIBRARY BUILDINGS, ROATH, CARDIFF.—A new branch library was opened at Roath on Thursday, the 10th inst. It provides for storage accommodation for 11,000 volumes, capable of expansion to 17,000 volumes. The cost of the building was 2,480*l*. Messrs. Teather & Wilson, Queen-street, Cardiff, are the architects.

NEW POLICE BUILDINGS, WARRINGTON.—The new police buildings erected for the Borough of Warrington, from designs by Mr. R. Burns Dick, of Newcastle-on-Tyne, were opened on the 11th inst. The architect has given the cells the position of first importance. The chief constable's office is near the magistrates' entrance, which will also be used by the Watch Committee, and the detectives' department is at the south-east corner, near to the public entrance, and midway between the chief constable's

and chief inspector's offices. The hall or public lobby of the coroner's court is directly on the left, and that of the police court on the right. The entrance to the public galleries is distinct from those leading to the body of the court. The buildings will be warmed with low-pressure steam on the double-pipe gravity-return system, and in corridors, window recesses, or larger rooms, ventilating radiators have been provided. The cost is estimated at 25,000*l.*

New Church, Willesden.—The Bishop of London on the 12th inst. consecrated the first completed portion of the permanent church of St. Matthew, Willesden. In order to relieve the adjoining parishes of St. Mary's, Willesden, and All Souls', Harlesden, the St. Matthew's district was set apart in 1894, and in the following year the mission church—a temporary building—was opened. The part of the church now opened for public worship consists of the chancel, morning chapel, transepts, and two bays of the nave, providing accommodation for 500 people. When the building is completed there will be a seating capacity for 800 persons. The church is being erected from the designs of Mr. W. D. Caroë, architect to the Ecclesiastical Commissioners.

Club Buildings, Crieff, N.B.—A building is about to be erected for the Crieff Unionists Club, in King-street, in that town. The front is of simple and neat design, and will be of freestone. The plan of the ground floor shows a small hall, billiard-room, lavatories, and two shops facing King-street; while on the upper floor are situated committee-room, ladies' room, news room, and accommodation for the caretaker. Mr. George T. Ewing, Pitkellony, Muthill, is the architect.

Pathological and Morphological Laboratories, Oxford.—The new Pathological Laboratory at Oxford University Museum, which has been erected at a cost of 10,000*l.*, was opened on Saturday in the presence of a large and representative gathering of members of the University and the medical profession. The Vice Chancellor (the Provost of Oriel) presided. An address was delivered by Sir William Church, who alluded to the great progress which had been made in the development of natural science at Oxford, and said it appeared to him that day had been most happily chosen for the opening of the pathological department, for to-day was being celebrated the eightieth birthday of the Nestor of pathological research, Professor Virchow, and Oxford could not in a more worthy way pay its homage to the veteran scientist. The site for the department is within the grounds of the University Museum. The building occupies a space of 65 ft. by 75 ft., and to the north has a yard 60 ft. by 30 ft. The front elevation, in which is the main entrance, is toward the east, and nearly all the rooms are lighted either from this aspect or the north. The building consists of a partially-sunk basement and two floors. Entering by the main door access is given to a central hall, from which or from its gallery all the rooms of the department open. Running up through both floors is a lecture-room (25 ft. square and 22 ft. high) and a museum (31 ft. by 25 ft.) and of a similar height, both being lit from north and east by roof lights. Besides these, on the ground floor is a research-room for experimental pathology (25 ft. by 18 ft.), and another of similar size fitted up as a chemical research laboratory. To the former is attached an incubation room, and to the latter a small balance-room. On this floor there is also a private room for the head of the department, a private research laboratory, lavatory accommodation, &c. On the first floor there is a large room (43 ft. by 18 ft.) for the teaching of pathological histology, and to this is attached a preparation room. There is also a class-room (31 ft. by 18 ft.) for practical bacteriology, a photographic room, and a demonstration room, &c. In the basement of the department is a private laboratory, a dark laboratory, a large preparation room for the pathological and bacteriological work of the department, storeroom, room for heating apparatus, and workshop. The basement will also contain a refrigerating room (10 ft. square and 8 ft. high) kept below zero by one of Hall & Co.'s carbon dioxide freezing apparatus. The building was carried out under the immediate supervision of the architect, Mr. J. Augustus Souttar, of London. The morphological laboratory attached to the University Museum was commenced in July, 1898. The funds for its construction having been voted by Convocation in the previous year, Mr. J. J. Stevenson, F.S.A., was appointed architect, and with his partner, Mr. Harry Redfern, has designed the building, which has now been completed. Messrs. Symm & Co. were the builders. It contains on the top floor a laboratory with desks for 100 students, and the requisite convenience for carrying on the work, rooms for professors and for private investigation, storerooms for diagrams, &c., cloak room and lavatories for male and female students, and a well-lighted lecture theatre, accommodating 100 students, the entrance so arranged that it could be used by other lecturers without interfering with the work of the laboratory. As the main front occupies a conspicuous position facing the parks, it is of stone like the other buildings of the Museum. The side towards the court is of brick, with doors and windows of stone. The character of the architecture has been determined by the purposes of the building, which necessitated large windows of plate glass, giving uninterrupted light for microscopical work. The floors are of concrete, boarded over, as also the flat roof, with a covering of asphalt.

Workhouse Extension, Grimsby.—The extensions of the Grimsby workhouse and infirmary were formally opened on the 10th inst. by the chairman of the Board of Guardians. The new buildings consist mainly of an extension of the infirmary, but the aged women's block, the laundry, the male and female pavilions, the wards for general sick and isolated cases, have also received additions. The infirmary has now accommodation for 142 beds. The builders, Messrs. Hewins & Goodhand, of Grimsby, have carried out the work at a cost of about 8,000*l.* from designs prepared by Mr. Herbert C. Scaping, of Grimsby, who was the architect of the original buildings.

Restoration of St. Andrew's Church, Trowse, Norwich.—This church was reopened, after extensive restoration, on the 11th inst. A new aisle has been built, the nave has been reroofed, the whole church has been refloored; and heating apparatus, light, choir stalls, holy table, communion rails, and a large two-manual organ have been provided. The work remaining to be done includes reroofing the chancel, repairing the south and west walls, the porch, the tower, the chancel walls, and the east end window. The cost of the work is estimated at 3,000*l.* The contractor was Mr. J. S. Smith, of Norwich, and Mr. E. T. Boardman, of the same city, was the architect.

Methodist Chapel, Bulwell, Notts.—On the 12th inst. memorial stones were laid of a new chapel and schoolroom at Highbury-vale, Bulwell. The edifice, which will be plain Gothic in style, will be built of brick and stone, with a large stone Gothic window in the front and square head windows inserted in the sides. The building will be 52 ft. 6 in. long and 27 ft. 6 in. wide, and provision has been made for the construction of a kitchen, 12 ft. square, on the left hand side at the back. This will be utilised as a classroom, and underneath will be a heating-chamber. The school will be divided from the chapel by a partition, but ultimately it is intended to erect a church on an adjoining site, which has been reserved for the purpose, and then the premises which are now being built will be devoted to Sunday-school work. Accommodation will be provided for about 320 persons. The cost is estimated at 1,000*l.* The builders are Messrs. Herbert Ingham & William Pipkins, of Basford, and the architect is Mr. J. R. Swift, of Arnold, Nottingham.

## *SANITARY AND ENGINEERING NEWS.*

Light Railway, Ormiston, N.B.—A light railway connecting Gifford with the Ormiston branch of the North British Railway to Edinburgh has recently been opened. The line is nearly ten miles long and cost 100,000*l.* Messrs. Joseph Phillips & Sons, of Westminster, were the contractors.

Water Supply, Kintore, N.B.—The members of the Kintore Town Council recently visited the sources of the proposed new water supply for the burgh. Measurements were made of the volume of water capable of being supplied from the source. Although it was found that it had decreased more than one-half of what it was when measured five months ago, still it was considered that the two springs—Smuggler's Well and Buckland Well—were together sufficient, even in a dry season like the present, to meet a much larger consumption than the population for some time would demand. The engineer made a rough calculation that a sum of 2,000*l.* would be ample to cover the cost of the undertaking, and the engineer, Mr. Bremner, of Kintore, was instructed to lay before an early meeting of the Council statistics giving particulars of the work proposed, and showing approximately the cost of the scheme.

Morecambe Sewerage.—Some eighteen months ago the Morecambe Urban District Council decided to carry out a complete sewerage system for their district, and the contract for the greater portion of the work was entrusted to a firm who went into liquidation in March of the present year. The Council have now decided to take the work in hand and complete it themselves. The scheme will probably cost about 100,000*l.*

New Waterworks, Exeter.—During a recent visit of the members of the Exeter and District Chamber of Commerce the City Surveyor of Exeter, Mr. D. Cameron, gave an account of the waterworks of the town, both old and new. The new work is being carried out under his superintendence. The old works consisted of a brick culvert, 1½ miles in length and 2 ft. in diameter, laid from the intake at Stoke Canon to Pynes Pumping Station, the pumping machinery consisting of water-wheel, three turbines, steam beam engine with two Cornish boilers, whence the water was pumped by means of 12-in. and 10-in. mains to two reservoirs at Dane's Castle, having a head of 156 ft. above the pumping station. The water at Dane's Castle was filtered by two beds, and then forced by means of two boilers and a Worthington engine through a 7-in. rising main to a reservoir at Mary Pole Head, at a height above the filter-beds of 270 ft. The reservoirs at Dane's Castle supply the low level consumers, which amount to fully two-thirds of the population, the remainder, forming the high level portion, being supplied from Mary Pole Head. In 1897 and 1898, the Water Committee of the Exeter City Council had under their consideration the question of a better supply and more storage capacity of water available for all purposes, and in April, 1898, application was made to the Local Government Board for leave to borrow 36,000*l.* for new works. The necessary consent was given, and the works started in August, 1899. The new works at Pynes consist of a new conduit, 1½ miles in length by 2 ft. 6 in. in diameter, of turned and bored cast-iron pipes, from the intake near Stoke Canon into the settling reservoirs at Pynes. The two settling reservoirs are each 224 ft. by 164 ft., with 11 ft. 3 in. depth of water, and have a capacity of 2,900,000 gallons each. There are six filters, each 210 ft. by 57 ft., and 6 ft. 6 in. deep, with 3 ft. of filtering material (Fremington sand), and a filtering area of 72,000 superficial feet each, capable altogether of filtering 3 million gallons per day. The water from the settling reservoirs gravitates to the filters through an 18-in. cast-iron supply main, whence, after being filtered, it flows to the pump suction wells through 18-in. cast-iron supply mains, from which it will be pumped by means of turbines and steam engines to the distributing reservoirs at Dane's Castle and Mary Pole Head. The new pumping plant will consist of a new Worthington pumping-engine capable of lifting 2½ million gallons per day, the Cornish boiler and three new vortex turbines, and the whole of the pumping capacity will amount to over 3 million gallons per day. The turbine house has been enlarged and a new engine house erected for the Worthington engine. The banks of the leat from Pynes to leat intake will be raised 2 ft., and the sides made with concrete blocks, so as to give a better head for the new hydraulic machinery. A new intermediate reservoir has been constructed at Pennsylvania 83 ft. by 54 ft., and 19 ft. deep, with a capacity of 500,000 gallons. After the water leaves the filter beds it gravitates through an 18-in. main to the pump suction well, from which it is pumped through a new 14-in. rising main 1·54 miles long to the new intermediate reservoir at Pennsylvania, and the existing reservoir at Mary Pole Head, which supply the whole of the high level parts of the district, or through the old 12-in. rising main just over two miles in length, to the old filter beds, now to be used as reservoirs, and the old reservoirs at Dane's Castle, where it supplies the low level portion of the district. The whole of the pumping plant will be taken away from Dane's Castle, and it suitable used at Pynes. The existing storage capacity is about 5,384,000 gallons, which will be increased by the new works to 10,000,000 gallons. At present the unfiltered water is conveyed from the intake at Stoke Canon to Pynes pumping-station, and there pumped through to 10-in. and 12-in. rising mains to Dane's Castle, receiving reservoirs, passing from reservoirs to filter beds, and from filters into the clear water well, from which it is again pumped up to the reservoir at Mary Pole Head. Under the present system, through having the pumping stations, filter beds, and reservoir at different places, it means the keeping up and working of two sets of pumping plant, entailing double cost, which under the new works is remedied. The new works have the intake, settling reservoirs, filters, and pumping plant all at one station, which means the provision of only one lot of plant—with the necessary saving in labour, coal, &c.—which pumps the water into the storage reservoirs to supply the city.—*Western Morning News.*

## *FOREIGN.*

France.—The "Vieux Paris" Committee has passed a resolution that the public should be admitted to view the interior of the Ecole Militaire, one of Gabriel's finest buildings. The notable portions of the interior are especially the grand staircase, the chapel, the salle d'honneur, and the library. ——A large mosaic panel has been fixed on the wall of the orangery at the Luxembourg, executed some years ago by M. Guilbert Martin, from the cartoons of M. Edouard Fournier.——The ceiling painting by M. Bonnat, representing "Justice," which was exhibited in this year's Salon, has now been fixed in the place for which it was intended, in the first chamber of the Cour d'Appel.—— The Budget Committee in Parliament has voted 300,000 francs for the use of the Department of Monuments Historiques. —— One of the decorative landscapes in the Hôtel de Ville, M. Berthelon's view on the Seine, has been destroyed by some person unknown.——M. Roty has executed a medal in commemoration of the success obtained by M. Bénard, two years ago, in the California University competition. —— The monument to Pasteur, of which the model had been left by Falguière, has now been completed in marble, under the direction of M. Dubois. It will probably be erected on the Place du Panthéon, or in the Square of the Sorbonne, on a pedestal designed by M. Girault.——M. Carré, architect to the Department of the Foreign Office, has been

commissioned to rebuild on new lines the palace of the French Legation at Pekin, which was destroyed during the siege of the city. ——The jury in the competition opened for the erection, in the mountains of Puy de Dôme, of a "Hôtel des Voyageurs," has awarded the first premium to M. Pierre Valade; the second to M. Gozier; the third to M. Gaston Rapin; the fourth to M. Bruno Pellissier: all of Paris.——The Municipal Council of Calais has decided on the erection of a new Town Hall.——M. Injalbert, the sculptor, has just completed, for the town of Cette, the model of a fountain which it is proposed to erect on the site of former fish-market. The fountain, six mètres in height, will be surmounted by a statue of a faun, above a group of sailors and fisher-women.——We have to announce the death, at the age of forty-eight, of M. Paul Gaston Aubry, a member of the Société Centrale des Architectes. He was a former pupil of André, and became architect to the diocese of Aire d'Autun. He was the architect for numerous private houses, as well as for the restoration of the châteaux of Villegougis and Sully.

INDIA.—Extensive alterations and improvements in the exits and waiting halls at the Lahore railway station have been sanctioned.—— The military department is constructing a transport siding and platform at Umballa in connexion with the animal detraining depôt at that station.——The Madras harbour trustees have decided unanimously in favour of the northern entrance to the harbour being protected by a short groyne, and the sanction of the Secretary of State has been applied for to enable the works to be carried out.——The Barsi Light Railway Company are about to extend their line from Barsi road to Pandharpur: the Secretary of State has issued instructions for the preparation of the necessary contract.——In reference to the electric lighting of Simla, we learn that water power sufficient to provide some 450 horse-power is available within some ten miles of the station, and there is a demand on it both for driving the municipal pumps and for lighting purposes. The scheme is estimated to cost about ten lakhs of rupees.——The heavy rains in the Simla district during August have resulted in disastrous landslips. As much as nine inches fell during twenty-four hours, which is the heaviest fall since August, 1891. The road from Kalka was blocked by several slips; passenger traffic was stopped for several days. Fortunately, there was but little loss of life.——Additions and alterations on an extensive scale are being made to Jakhal station-yard in connexion with the entry of the Ludhiana-Jhuri-Jakhal Railway into that station. ——The Government of India have decided to construct a building for the joint accommodation of the United Service Institution of India, libraries of the military department, and Army headquarters at Simla.

UNITED STATES.—Mr. J. R. Thomas, a well-known architect of New York, died recently at a summer resort in the Thousand Islands, at the age of fifty-five. Amongst his important works may be mentioned the New Jersey State Reformatory, at Rahway, two large armories in New York city for the State Militia, besides several churches. In 1896 his design for the proposed New York city hall was placed first by the commission, and on that project being abandoned he received the commission for the new Hall of Records, now in process of construction.

GERMANY.—A statue of Prince Albrecht, brother of the Emperor William I, erected opposite the castle of Charlottenburg, was unveiled on the 14th inst. in the presence of the Emperor William.—— The unveiling of the statue of the Emperor Frederick on the open space between Cronberg and Friedrichshof, which was to have taken place on the 18th inst., has been postponed.——The graves of two celebrated parliamentarians, Lasker and Bamberger, which lie side by side, are about to be covered with a large and richly-ornamented stone, and surrounded by an iron railing. On this stone will be placed a monument of polished Norwegian granite flanked with two lofty pillars, between which will be placed a dedicatory tablet of bronze. The monument has been designed by the State architect, Herr Thierbach.—— The German Emperor has decided that the right and northern semi-circle outside the Brandenburg gate, towards the Siegesallee and the Reichstag building, shall be the site of a monument to his father. The Emperor has also decided to erect a monument to his mother, the late Empress Frederick, on the southern semi-circle. The houses round the Brandenburg gate will be removed, so that the monuments may be clearly visible from Unter den Linden. The work is to be executed under the direction of Herr Hans Everding, a young sculptor who won a small gold medal at the Art Exhibition in 1898.

RUSSIA.—A railway is about to be constructed between the ancient city of Bokhara and the new Russian town of the same name which has sprung up around the station on the Trans-Caspian Railway. The line will be about 20 versts in length, and will be constructed at the expense of the Emir of Bokhara.

## *MISCELLANEOUS.*

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS. —Mr. A. H. Ryan-Tenison, architect, has removed his offices from 7, Great College-street, to 12, Little College-street, Westminster.——Mr. Arnold Thornely, architect (Liverpool), has removed his offices from 14, Castle-street, to 51, North John-street, Liverpool.——Mr. F. Brice Hobbs, architect (Liverpool), has removed his office from 14, Castle-street to 51, North John-street, Liverpool.——The business of Messrs. Hodkin & Jones (Sheffield), manufacturers of architectural concrete, masonry, &c., has been registered as a limited company.

CHANGES IN LEICESTER-SQUARE.—The new premises which have just been completed on the site of No. 46, on the west side of the square, together with that of No. 62, Whitcomb-street, in the rear, have been built by Messrs. Prestige & Co., of Pimlico, after the plans and designs of Messrs. E. Wimperis & East, for an old-established firm of billiard-table makers. On the adjoining site, next south, a new house has been built by Mr. T. Stevens. Messrs. C. & E. G. Asprey, of New Bond-street, have entered into possession of the block, Nos. 39-42, on the south side of the square, being the freehold lately vacated by the Dental Hospital of London, covering an area of about 2,980 ft. superficial, which they purchased at auction for 23,000*l.* in July last. The new buildings for the hospital, at the south-eastern corner of the square, recently opened, were built by Messrs. George Trollope & Sons, from designs and plans made by Messrs. Young & Hall.

FIRE AT STEPNEY PARISH CHURCH.— St. Dunstan's, the historic parish church of Stepney, was partially destroyed by fire on Saturday, the 12th inst. The *Standard* remarks that firemen, with at least a score of engines, coming from all parts of the Metropolis, were quickly on the spot, Commander Wells directing their operations. By the time the first engine arrived the fire had got a firm hold of the interior of the vestry, the flames from the roof of it rapidly spreading along the whole length of the double roof of the main building. Examination disclosed the fact that almost the whole of the roof, except that portion which covers one of the aisles, had been completely burned away, only a few charred wooden rafters indicating where it had once rested. Fortunately the ancient square tower, which for upwards of 500 years has stood out as a landmark, was untouched. In the aisle, the roof of which has escaped injury, is a newly-erected altar, and this remains undamaged by the flames. The pews, too, which provide accommodation for some 800 people, have also been preserved, thanks to the energy of the firemen. Of the six stained-glass windows in the church, the one over the altar in the chancel has been slightly damaged, and one other broken to pieces. The altar itself, together with its beautiful draperies, has been completely destroyed by the burning timber which fell from the roof. The vestry, where it is believed the fire originated, and the valuable organ and organ-loft above it, were completely burned out. Only the outer walls, some iron cupboards, and an iron safe resisted the flames. In the cupboards were stored the registers, which date back to the year 1568, and which afford much interesting information about the Great Plague of 1666 and other matters of history, while the safe contained the church plate, a very valuable collection, dating from the seventeenth century. All these interesting relics have, therefore, been saved. It was only two years ago that the edifice was restored at a cost of 6,500*l.*, 700*l.* of which was expended in rebuilding the organ, which is now only represented by the lead of melted pipes. The church was insured for a sum of 11,000*l.*, and the Rector calculates that this will more than cover the cost of repairing the damage which has been wrought by the fire. It is interesting to note that the parish church of Stepney was already in existence when St. Dunstan was Bishop of London, in 959, and after his death the church, which he rebuilt in 960, became associated with his name. The building as it stands to-day dates from the time of Edward IV. (1471-83), and is a good specimen of a Late Perpendicular country church, with some relics of its earlier days still preserved. The church, an imposing building, stands in its own grounds of seven acres, with a fine avenue of lime trees, under which such men as Dean Colet, founder of St. Paul's School, who was born in Stepney and was some time vicar of the parish, worked and conversed with Erasmus and other great Reformers of his day.

ANATOLIAN ANTIQUITIES.—The journey of exploration by Dr. Waldemar Belck has been successful thus far. At Amassia, in Anatolia, where the celebrated Royal tombs are situated, he discovered a new Greek rock inscription of the great King Pharnaces, the son of Mithridates. The rocky fort was, to the ancient world, impregnable. A nine days' trip brought Dr. Belck to Tokat, another strong rocky fortress, and then to Guemenek (Poutica), where he measured the temple ruins. Thence he went to Niksar—Neo Cæsarea, the old Cabira—a very strong fortress, where Mithridates' treasury was kept. On his return, he travelled via Herek (Eupatoria) and Ladik, the ancient Laodicea, which played a part in Cæsar's swift campaign against King Pharnaces—"*Veni, vidi, vici*"—in the year 47 B.C., and also four years later, during the campaign of revenge against Cassius.—*Standard.*

ELECTRIC LIGHTING, HEBBURN-ON-TYNE.— Messrs. Warren, Beattie, & Co., of Middlesbrough, have secured the contract for the supply and erection of the motors and cabling in connexion with the electric-power installation about to be put down by Messrs. Robert Stephenson & Co., Limited, at their shipyard at Hebburn-on-Tyne. This comprises thirty-nine motors, varying in power from 6 to 50 horse-power, the main switchboard, distribution boards, and all the cabling in connexion therewith. In addition to this, they have secured the order for the lighting of the shipyard, various shops, and offices. The lighting installation comprises sixty-eight arc lamps of 2,000 candle-power each, and over 550 incandescent lamps.

CLOSING OF LINCOLNSHIRE BRICKWORKS.—A serious depression in trade has overtaken the brick-makers of North Lincolnshire, whose works are studded along the banks of the Humber from Grimsby to Barton. The *Yorkshire Post* states that there was an overwhelming demand for bricks about two years ago, the price ranging from 30*s.* to 35*s.* per thousand, and the pressure was such that it was not uncommon for bricks to be shipped hot from the kiln. This prosperous state of the trade led to eight new yards being started, and now that a slump has occurred the adversity is correspondingly wide-spread. In the various yards there are many millions of bricks stacked, and some makers have their whole season's output on their hands. A very disagreeable fact is that at Barrow Haven, Messrs. Turner have closed their three yards for an indefinite period, thus throwing a large number of men out of employment. Winter is the time to "get" the clay to make up in the following season, and this means that Messrs. Turner will "get" none this winter, so it is evident that they do not view the immediate future very hopefully. Many other yards in the vicinity have practically ceased working. Another class of traders seriously affected by this state of affairs are the keel-owners and sailors of the district, as most of the transit is by water. Should the coming winter prove a severe one, the situation will be rendered acute for all concerned in the brick trade.

THE DRAINAGE OF SAUNDERSFOOT, TENBY.—At a recent meeting of the Narberth Rural District Council, Dr. W. Clement Evans, Medical Officer of Saundersfoot, reported an outbreak of scarlet fever amongst the children attending the Cresselly School. Seven cases had occurred in four families up to the present, and the school had been closed since the 23rd ult. There had been four other cases of scarlet fever, one at Begelly, one at Catershook-gate, and two at the Lower Level. Five cases of typhoid fever had occurred, one at Cross-lanes, one at Begelly, and three at Saundersfoot. The case at Cross-lanes was evidently imported, as the girl came home ill from Merthyr. The case at Begelly proved fatal. He made a thorough examination of the premises and surroundings, and found a drain, which led from a slaughter-house, emptying on the side of the hill and overlooking Begelly Bottom. The well, too, which supplied some of the water was in great need of being protected from surface drainage and decaying vegetable matter, the water tasting very peaty. Whether this case was due to this or to the drain, he was unable to say, but both the well and the drain ought to be looked into. As to the cases at Saundersfoot, he firmly believed the state of the closets and the drains of Saundersfoot were responsible for this outbreak. In conclusion, he stated:—Some time ago I recommended you to erect a public slaughter-house for this parish or group of parishes. These private slaughter-houses are becoming an intolerable nuisance, and more so as they are becoming more numerous. There is not one of the present slaughter-houses in my district either constructed or kept as the law requires them, and unless they are constructed and plentifully supplied with water, they cannot be kept clean.—*Tenby Observer.*

ARTIFICIAL STONE IN GERMANY.—According to a Consular report to the Government of the United States, the artificial building-stone industry has taken a considerable development in Germany. The raw materials are lime, preferably hydraulic, and sand—the cleaner the better. After grinding, the lime is mixed with the sand in the proportion of 4 to 6 per cent. of the total bulk. The mixture is then pressed into bricks and transferred to a steel drum, where it is subjected to the action of steam at a pressure of about 120 lb. per square inch for about ten hours. Under the action of the steam a silicate of lime is formed which acts as binding material. The bricks are ready for use on removal from the drum in question. Mouldings are as easily produced as rectangular work. The bricks thus manufactured are said to be both cheaper and stronger than ordinary brick, the crushing strength being about 500 tons per square foot. The factory needed is small, as compared with the output, and work can be carried on all the year round.

DAMAGE TO TRURO CATHEDRAL.— It has been reported that certain cracks have appeared in some of the Bath stone of the bases of the pillars of the nave. The committee, in conjunction with the architect and contractor, are thoroughly and carefully dealing with the defects and their remedy, and they feel assured that the matter will be brought to

a satisfactory conclusion. There is not anything amiss with the foundations, nor is there any indication of a settlement in the fabric, and the cracks are perfectly stationary, and show no signs of extending themselves. Not the slightest apprehension exists as to the security of the nave. Excellent progress is reported in the building of the central tower.—*Cornish Telegraph.*

## CAPITAL AND LABOUR.

Swansea Builders' Labourers' Strike.—The Swansea builders' labourers six months ago demanded ½d. per hour advance, which was refused, and the men came out on strike. Offers and counter-offers have since been made, arbitration has been refused, and the intervention of a third party unsuccessful. The employers will concede ½d. advance in August next, providing the men will sign on for four years. This offer has now been unanimously rejected, and in all probability the strike will last throughout the winter. In a few cases the advance asked for is being paid, but an effort is being made to get the whole of the labourers engaged in the town to leave work, and so form an organised resistance to the progress of any building operations. Both sides are determined not to give in. The men are being supported by the National Gasworkers and General Labourers' Union. It is estimated that the strike has cost altogether 5,000*l.*—*Daily Express.*

## LEGAL.

### TRESPASSERS ON BUILDING LAND:

A QUESTION AS TO RESPONSIBILITY AND RISK.

At Brompton County-court on Monday, before Judge Stonor and a jury, James Booker, a builder's labourer, 29, Byam-street, Fulham, S.W., brought an action against Mr. Joseph Wilson, builder and contractor, 126, Stephendale-road, and Elswick-street, Fulham, claiming damages in respect of personal injuries sustained, owing, it was said, to negligence on the part of the defendant or his servants.

Mr. S. W. Lambert, counsel, appeared for the plaintiff, and Mr. Colam, counsel, defended.

Plaintiff's counsel explained that the defendant was the owner of a large estate bordered by Stephendale-road, Bagley's-lane, and Elswick-street, Fulham. In April last a large portion of the land was not built upon, and it appeared that for some six or seven years previously the public had been in the habit of walking across the land in order to cut off a corner. At one time, it was alleged, a fence had been put up to prevent any one going upon the land, but in April last, and for a long time previously, there was no fence whatever. On April 17 last, late at night, the plaintiff, who for some four years had been accustomed to using the path across the land, had occasion to go to Sand's End, and when about half-way along the path he suddenly fell down a gravel pit which had been dug right in the line of the path. The man seriously injured his shoulder, and was not yet able to resume his work.

The plaintiff bore out his counsel's opening statement.

In answer to the Judge he said that he walked across the land about a fortnight prior to the accident, and the nearest gravel pit was then some 30 ft. or 40 ft. from the path.

In cross-examination the plaintiff stated that there was no notice upon the land warning the public not to trespass, or that the path was dangerous. He had been in the employment of the defendant for a time, and was well aware that there were gravel pits in the field, but he was not aware that the pits were near what he considered to be a public footpath across the land.

Thomas Crawley, a builder's labourer, stated that there was nothing to warn the public of the hole, which could not be seen in the dark as one walked along the path.

Police Inspector Holton stated that about two years ago a fence had been put up on the land, but it was pulled down—he believed by boys—almost immediately afterwards. He had often seen the public using the path across the land.

Cross-examined: No one could accidentally wander from the public footway on to the defendant's land, because the latter was several inches lower than the pavement. There was no well-defined path across the land; people walked across it in various directions. He had never seen a notice warning people not to trespass upon the land. The plaintiff had evidently been drinking on the night of the accident.

F. H. Manning, a sanitary inspector in the service of the Fulham Borough Council, stated that he, as the general public appeared to do, had used the path in question.

Other witnesses gave similar evidence, and two medical men spoke as to the plaintiff's injuries.

Mr. Colam submitted that the defendant could not be held liable in the present case unless it was shown either that the public had a right-of-way across the land, or that there was an invitation to the public to use the path—as in the case of a path leading to a shop or factory—when the hole in question would have been of the nature of a trap. In the present instance, however, any one using the path was a trespasser. If the evidence had been that a person was likely inadvertently to stray from the public footway on to the land, there might then have been a case to go to the jury.

The Judge: But the defendant appears to have tacitly acquiesced in allowing the public to use the path for two or three years or more. Knowing that people went along the path day and night, they enlarged the pit across the path. I think it a very doubtful point. The question is whether they did not invite the public to use it. It appears that at one time they attempted to stop the public going across the land, but when the boys broke down the fence the defendant appears to have given in and let the public use the path. It does not seem that the public would be trespassers upon the land until it was fenced in again.

Mr. Colam: But if I go across another man's land I am a trespasser. Suppose I sued this man for trespass, could he set up a defence of leave or license? The cases bearing upon the point set up this principle: If you dig a pit, or put a trap so near the public highway that a person without negligence may inadvertently stray, and get into the hole or trap, then you are liable.

The Judge: The public were allowed to use this path.

Mr. Colam: No, your Honour. We could not help them using it. Does your Honour know of any duty on the part of a landowner to put up such a fence that people cannot pull down? Surely, we may assume that persons who trespass upon our land must use their eyes and take the risks. It is the duty of the person who leaves the high road and goes on to my land to see where he goes; it is not my duty to provide light for him.

Mr. Lambert submitted that in the present instance the hole constituted "something in the nature of a trap." The defendant acquiesced in the public going along the path. The learned counsel went on to quote several cases in support of his contention.

Mr. Colam: I do not agree with my learned friend. I say that I have a right to assume that if a person trespasses on my land in the daytime he must take every care, and if he trespasses and injures himself in the dark he must take the consequences.

The Judge: I think that is so. It appears to be a case where the hole was not a trap. The builder was only using his land in a proper way, and he had a right to assume that a person would not trespass upon the land, especially in the dark. The plaintiff must be non-suited.

## RECENT PATENTS:

### ABSTRACTS OF PATENTED INVENTIONS.

10,937.—Window Fastenings: *W. Rundell.*—A fastening-arm is pivoted on to an angle-plate upon the meeting-rail of the lower sash. A hook at the end of the arm engages with the bar of a catch-piece upon the upper sash, the arm can be moved backwards and the sashes can be drawn together with a screw, a slot being cut in the arm for the pivot, and the window may be fastened, when it has been opened, with additional catch-pieces affixed to the middle upright.

10,999.—A Fire Alarm: *H. G. Lyngaas.*—When the temperature exceeds a certain limit an electrical bell circuit will become closed by means of a plate which is cemented with wax to a wire-gauze disc arranged in front of an opening. As the wax is melted the plate is lifted with a spiral spring, and so brings about the meeting of two contact-pieces for the closing of the circuit.

11,007. — Construction of Breakwaters, Groynes, &c.: *E. M. L. Case.*—Plates hold wooden planks or metallic sheets together near their one end, and projecting plates are fitted upon each side of their other end so as to enclose the piles when driven in; lugs on the underside hold a V-shaped or channel-shaped shoe, and a similar weighting-piece is placed above; the piles, tubular in form, should be screw-threaded internally so that their lengths may be joined together.

11,014.—A Plastic Composition for Building Purposes: *W. T. Symons.*—A plastic compound to be moulded into floors, tiles, mantelpieces, and so on consists of an admixture of granulated cork or wood, saturated sugar of lime, cement, and oxidised oil, or other binding material.

11,026.—An Electrical Cord Grip: *A. P. Lundberg and G. C. Lundberg.*—The grip has a screwed portion, which has grooves that will take the two conductors separately and a plug or nut for holding the conductors in the grooves. For attachment of the grip to a wall plug, the screwed portion is fashioned so as to project from a flat surface against which one can clamp the conductors. The appliance will serve for the coupling-plugs of lamp-holders and for ceiling roses, pear switches, &c.

11,032.—A Contrivance for Fastening Windows, Gates, Doors, Drawers, &c.: *G. C. Smith.*—For retaining the sash in any position required is utilised the end pressure of a plate upon the end of a shaft that is jointed to a bar having a quick thread mounted in a fixed nut. The plate will be drawn inwards when the handle is raised, and adjustment of the window can be effected, the plate being returned with springs to the position for locking. A bolt that forms part of a rack, worked with a key, will prevent the handle from being lifted. For a door, the bar is rotated with inside and outside handles.

11,046.—Treatment of Sewage: *E. Burmeister.*—To sewage and similar foul effluents are added carbonate of lime and slaked lime, which will also serve for deodorising and disinfecting purposes. The resultant calcareous precipitate may be used again, instead of fresh carbonate of lime, in respect of another quantity of sewage.

11,048.—Winding and Hoisting Mechanism: *R. Grisson.*—In order to provide for two speeds the inventor fashions the barrel in two parts, having different diameters, and keeps them asunder with a flange in which is a slit. When the barrel is turned in one direction the hauling-rope is wound upon one drum, and *vice versâ*.

11,059.—A Gas-burner: *F. J. Beaumont.*—The atmospherical burner, for lighting or cooking, is joined to the burner tube at its one side with a chamber fashioned in two parts, and at its other side to the gas-jet. One part of the chamber has a partition on to which is pivoted a light fire-proof flap which will open easily for admitting gas and air, but will be closed by any back pressure—thus "lighting back" is obviated. In another shape a small box is screwed into the enlarged burner tube, having at its inner end a light flap slightly inclined, and at its outer end a gas nozzle and air-inlet holes.

11,084.—A Flushing System for Urinals: *T. W. Twyford.*—Around the top of the urinal is a gutter into which a pipe delivers the flush and from which the flush overflows down the sides. The gutter is concealed by the overhanging coping stone. In one shape the service-pipe is inserted in the back of the stall and an opening upon a T-piece fits into a conical opening upon the pipe, a screw keeps the lips together, and the overhanging coping stone forms a recess for the sparge-pipes.

11,087.—A Two-way Valve for Flushing Apparatus: *T. W. Twyford.*—A two-way distributing valve consists of a triangular box, having a flushing inlet and side outlets to the flushing-rims, and provided with a hinged flap. When in its middle position the flap will leave both of the outlets opened, but when in its extreme positions it will leave one or the other of the outlets closed.

11,088.—An Apparatus for Windows: *A. A. Weir.*—The apparatus is devised for opening and shutting pivoted sashes and skylights. A slightly curved rod joins the sash to a nut that is traversed by the twisting of a screw mounted in two fixed brackets, which are set apart at a distance about equal to the length of the rod, and worked with cords passing around a pulley upon the lower end of the screw, and thence around two guide-pulleys upon the lower bracket; a slot in the upper bracket provides for the passage of the curved rod.

11,118.—A Mitering Block: *J. W. Oliver.*—The block is fitted with a knife, having inclined edges, reciprocated with a rack and pinion attached to the lever. The pinion will gear on one side with a rack upon the back of the knife, and upon the other side with a fixed rack. A spiral spring returns the knife to a middle position, and spiral springs press the gauge-plates against posts around which they can be turned and clamped at any angle desired.

11,137.—Dust-bins: *G. Olliver.*—The bin has sides that taper upwards. The arms of the lid have slotted ends for engagement with a spindle that is held in a bracket, or they may have holes in their ends for adjustment upon vertical pins.

11,151.—A Chimney-top: *J. Smith.*—A flanged cover provided with openings is fitted on the top of the chimney stack, and a chimney pot is secured in each opening by means of a sleeve on the pot and a collar on the cover. In a variant form the cover and the pots are made in one piece.

11,167.—An Appliance for Use in Sharpening and Setting Saws: *A. C. Saxton.*—In order that the saw may be adjusted quickly in the clamp of the machine a feeding-rack is made on one edge of the slide that clamps the saw, and it is set in place by pressing a tooth into gear upon a transverse slide. Then a tooth upon another similar slide is forced into gear with the teeth of the saw, which can be clamped with screws in its slide as soon as the contact adjustment is found to be correct.

11,190.—Electrical Switches: *Siemens and Halske A-G.*—In a switch for high-potential currents wherein the arc is to be extinguished by being drawn within a tube of some insulating material a rod is used for connecting the contacts respectively, a metal ring upon the insulating tube will tend to prevent the latter from become overheated.

11,193.—A Contrivance for Window Sashes: *A. J. Skillman.*—Centrical horizontal pivots between sliding stiles carry each sash, which will be held in a vertical plane between the stiles by means of slips which parallel links join to the rebated sash-stiles; the slips are moved outwards, so as to clear the sash, when one wishes to turn the sash upon its pivots.

11,222.—Testing Apparatus for Drains: *R. Ravenor.*—The smoke-test apparatus comprises a cylinder, having an inlet from the blower and an outlet to the drain, which carries the rocket, and there is water beneath for extinguishing sparks, &c. For high-pressure work the bell is removed and a pump—a cycle pump, for instance—is joined up to an inlet in the screw-cap, a gauge being used for indicating the amount of pressure. For low-pressure

work either a gauge or a bell working in an annular sealing-groove is used.

11,272.—APPLIANCES FOR USE WITH ELECTRICAL LIFTS: *F. Hofbauer.*—The inventor seeks to furnish means of gradually starting the motor as the well door is closed, and of preventing the motor from being started whilst the well door remains opened. When all the doors are shut the motor-circuit is completed by means of contacts and the arms upon the well doors, but the opening of any one door will break the circuit, thereupon, all the other doors being shut, the shutting of that one door completes the circuit through the contacts in turn, the resistances are gradually cut out, and the motor is started.

11,303.—A CONTRIVANCE FOR VENTILATORS: *W. B. Johnson.* — The vanes, either curved or straight, of the ventilator can be secured at the angles desired or be held with pivots for their adjustment. The lowest vane is so constructed that it will quite shut the inner face of the ventilator—it is pivoted on to the ends of long arms for which a free movement is provided by cutting away the sides of the other vanes, or by pivoting the other vanes upon side brackets.

11,376.—MANUFACTURE OF BRICKS, DRAIN-PIPES, TILES, &C.: *C. Chandler.*—The articles are made of dry or damp cement mixed with brick *débris*, stone, clinker, and similar waste material; after they have been moulded under pressure they are put into a hard water or a liquid charged with alum, soda, silicate of soda, sal-ammoniac, and so on, for hardening the binding material.

11,403.—A METHOD OF FIXING FACING-TILES: *J. A. Dobbie.*—For affixing the tiles on to walls, ceilings, and similar surfaces, the inventor screws through their middle portions and covers the heads of the screws with plugs that have projecting stems which will fit into holes countersunk in the tiles, or may be recessed so as to take the heads of the screws.

## MEETINGS.

FRIDAY, OCTOBER 18.

*Architectural Association Discussion Section.*—Mr. H. G. Collins on "Stables and Stable Fittings." 7.30 p.m.

MONDAY, OCTOBER 21.

*Architectural Association of Ireland.*—Exhibition of prize and class drawings at 20, Lincoln-place, Dublin (open till the 26th).

## SOME RECENT SALES OF PROPERTY:

### ESTATE EXCHANGE REPORT.

September 20.—By Messrs. SPELMAN (at Norwich).

| | |
|---|---|
| Norwich.—2, Cow-hill, f. | £260 |
| Norwich Union Fire.—8 100*l.* shares (12*l.* paid) | 817 |

September 25.—By Messrs. KEMSLEY (at Romford).

| | |
|---|---|
| Romford, Essex.—52, South-st., f. | 925 |
| Hornchurch, Essex.—1 and 2, Donington-villas, f. | 470 |
| 1 and 2, Denham-villas, f. | 415 |
| 1 and 2, Eastcote-villas, f. | 410 |
| 1 and 2, Liscard-villas, f. | 395 |
| 1 and 2, Peel-villas, f. | 375 |
| South Essex Waterworks.—100*l.* Five per Cent. Preference Stock | 125 |

By JAMES T. PEAT (at Reigate)

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|---|---|
| Kingswood, Surrey.—Mogador, an enclosure of freehold land, 2¾ acres | 225 |

September 25 and 26.—By BARBER & SON (at Wellington).

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|---|---|
| Wellington, &c., Salop.—The Wombridge Estate, area 427 a., f. (in numerous lots) | 32,595 |

September 26.—By DOUGLAS YOUNG & CO. (on the Estate).

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|---|---|
| Chingford.—Eglington-rd., twelve plots of building land, f. | 860 |
| Connaught-av., Inversnaid, f., e.r. 60*l.* | 850 |
| Connaught-av, four plots of building land, f. | 308 |
| Forest View, three plots of building land, f. | 1,086 |
| Gordon-rd., Ardrishaig, f. | 1,000 |
| Victoria-rd., thirty-one plots of building land, f. | 2,480 |

September 27.—By A. J. SHEFFIELD.

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|---|---|
| Manor Park.—Fourth-avenue, Bournemouth, Lowestoft, and Hastings Villas, f. | 840 |
| Southend, Essex.—Hartington-rd., Oak Villa, f. | 385 |
| 1 to 6, Victoria-rd., f. | 700 |
| Old Ford.—3, 4, and 5, Gernon-rd., u.t. 35½ and 37 yrs., g.r. 18*l.* | 940 |
| Brixton.—41, Akerman-rd., u.t. 42 yrs., g.r. 8*l.*, r. 60*l.* | 720 |
| 133, Milkwood-rd., u.t. 64½ yrs., g.r. 3*l.* 10s., r. 30*l.* | 340 |
| Cubitt Town.—108 to 118 (even), Stebondale-st.; also i.g.r. 10*l.*, u.t. 49 yrs., g.r. 31*l.* 12s. | 930 |
| Mile End.—96, Harford-st., u.t. 56 yrs., g.r. 5*l.* | 225 |

September 28.—By WALTON & LEE (at Carlisle).

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|---|---|
| Waterhead, Cumberland.—The Birdoswald Estate, 221 a. 3 r. 12 p., f. and c. | 8,000 |
| Lanercost, Cumberland.—The Bush Farm, 278 a. r. 20 p., f. | 4,150 |

By EVANS & EVANS (at Stafford).

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|---|---|
| Sandon, Staffs.—The Romer Farm, 129 a. 2 r. 34 p., f. | 5,800 |
| The Grove Farm, 53 a. 3 r. 31 p., f. | 3,550 |

By FOLEY, SON, & MUNDY (at Warminster).

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|---|---|
| Sutton Veny, Wilts.—Church Farm, 544 a. 2 r. 32 p., f. | 4,300 |

September 30.—By FISHER, STANHOPE, & DRAKE.

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|---|---|
| Stoke Newington.—138, Osbaldeston-rd., u.t. 79 yrs., g.r. 9*l.*, e.r. 60*l.* | 680 |
| Stamford Hill.—68, Dunsmure-rd., u.t. 86 yrs., g.r. 8*l.*, e.r. 52*l.* | 525 |
| Homerton.—4A, Bushberry-rd., u.t. 83 yrs., g.r. 5*l.*, r. 65*l.* | |
| Clapton.—20, Chardmore-rd., u.t. 87 yrs., g.r. 7*l.*, e.r. 50*l.* | £515 |

By MAY & PHILPOT.

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|---|---|
| Streatham.—57, Palace-rd., u.t. 74½ yrs., g.r. 20*l.* | 1,050 |
| Brixton.—32, Helix-rd., u.t. 88¼ yrs., g.r. 7*l.*, e.r. 45*l.* | 530 |

By F. G. WHEATLEY & SON and DOWSETT, KNIGHT & CO. (on Estate).

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|---|---|
| Basingstoke, Hants.—Worting-rd., five plots of land, f. | 300 |

October 1.—By BEARD & SON.

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|---|---|
| Notting Hill.—42 and 52, Bassett-rd., u.t. 73½ yrs., g.r. 11*l.*, r. 200*l.* | 1,870 |
| Soho.—44, Dean-st., f., area 1,300 ft., r. 80*l.* | 3,025 |

By GARRETT, WHITE, & POLAND.

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|---|---|
| Crouch End.—10 to 28 (even), Harringay-rd., f., r. 304*l.* | 3,000 |

By WALTON & LEE.

| | |
|---|---|
| Ashstead, Surrey.—Dorking-rd., Fountain Cottages f. | 410 |
| Street Farm House and 0 a. 2 r. 13 p., f. | 950 |
| Woodfield-rd, Woodfield Farm, 78 a. 3 r. 2 p, f. | 4,700 |

By ORGILL, MARKS, & LAWRENCE (at Masons' Hall Tavern).

| | |
|---|---|
| North Woolwich.—The Royal Pavilion Hotel, u.t. 54½ yrs., r. 150*l.*, with goodwill | 28,000 |

October 2.—By ARTHUR BARTON.

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|---|---|
| Hoxton.—34 to 42 (even), Rushton-st., u.t. 33 yrs., g.r. 23*l.* 5s. | 1,250 |
| Lewisham.—36, Albacore-cres., f., r. 30*l.* | 460 |
| 157, Algernon-rd., u.t. 80 yrs., g.r. 4*l.* 10s., r. 32*l.* | 330 |

By FIELD & SONS.

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|---|---|
| Bermondsey.—36 to 41, Bermondsey-st., u.t. 59½ yrs., g.r. 275*l.*, r. 485*l.* | 2,080 |
| 10, Neckinger, and 88 and 89, Enid-st., u.t. 8, 13½ and 15½ yrs., g.r. 9*l.* 10s. | 200 |
| 31, Stanworth-st., f., r. 26*l.* | 320 |

By F. W. HARRISON.

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|---|---|
| Leicester-sq.—3, Leicester-pl., beneficial lease for 20¼ yrs., r. 90*l.* | 200 |

By J. HOOD & SONS.

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|---|---|
| Leytonstone.—80, Queen's-rd., u.t. 96 yrs., g.r. 6*l.* 6s., r. 38*l.* | 400 |

By J. & W. JOHNSON & CO.

| | |
|---|---|
| Walthamstow.—56 to 72 (even), Albert-rd., f. | 2,810 |

By FRANK JOLLY & CO.

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|---|---|
| Clapton.—98, Clarence-rd., f., e.r. 80*l.* | 900 |
| Limehouse.—42, West India Dock-rd., f, e.r. 50*l.* | 600 |
| Stepney.—10 and 12, Apsley-st., u.t. 22 yrs., g.r. 5*l.* 6s. 8d. | 310 |
| Cubitt Town.—211 and 213, Manchester-rd., u.t. 49½ yrs, g.r. nil | 445 |
| 24 to 30 (even), Gengall-rd., u.t. 40 yrs., g.r. 16*l.* | 515 |
| Poplar.—1 to 4, Marshfield-st., u.t. 40 yrs., g.r. 11*l.* 4s. | 495 |
| Stratford.—108, Forest-lane and 1, Wellington-rd., u.t. 68½ yrs., g.r. 7*l.* 10s. | 400 |

By R. LONGSTAFF & CO. (at Boston).

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|---|---|
| Brothertoff, Lincs.—A freehold farm, 102 a. 0 r. 23 p. | 3,550 |

By Messrs. IRELAND (at Reepham).

| | |
|---|---|
| Hackford, &c., Norfolk.—The Rookery Farm, 177 a. 1 r. 15 p., f. and c. | 4,100 |
| The Pettywell Farm, 103 a. 1 r. 3 p., f. and c. | 2,860 |
| Ten freehold cottages | 595 |
| A copyhold residence, r. 15*l.* | 210 |
| Whitwell, Norfolk.—A small holding, 1 a. 1 r. 33 p., f. | 120 |
| Two houses, ten cottages and 2 a. 0 r. 14 p., f. | 1,195 |
| Four enclosures, 21 a. 3 r., f. | 545 |
| Reepham, Norfolk.—Two freehold houses | 160 |

By DOUGLAS YOUNG & CO. (on the Estate).

| | |
|---|---|
| Ilford, Essex.—Christchurch-rd., three plots of land, f. | 450 |
| Toronto-rd., eight plots of land, f. | 440 |
| Brisbane-rd., eight plots of land, f. | 464 |
| Coventry-rd., twenty-three plots of land, f. | 1,471 |
| Wellesley and Balfour-rds., five plots of land, f. | 242 |
| Quebec-rd., nineteen plots of land, f. | 884 |

October 3.—By GEORGE BILLINGS.

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|---|---|
| Kilburn.—70, Willesden-ln., u.t. 85 yrs., g.r. 14*l.* 14s., r. 65*l.* | 760 |
| Hackney.—2, Blanchard-st., u.t. 46 yrs., g.r. 5*l.* | 230 |
| Brixton.—36, Aytoun-rd., f. | 350 |

By J. E. FISHER.

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|---|---|
| Tooting.—9, Bickersteth-rd., f. | 290 |
| Burntwood-ln. (rear of), a plot of land, area ½ an acre, f. | 210 |

By NEWBON, EDWARDS, & SHEPHARD.

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|---|---|
| Stoke Newington.—20 to 26 (even), Cooper-d., f., r. 128*l.* | 2,195 |
| St. Pancras.—84, Drummond st., u.t. 17 yrs., g.r. 20*l.*, e.r. 55*l.* | 105 |
| Hoxton.—141, East-rd., u.t. 46 yrs., g.r. 12*l.*, r. 75*l.* | 575 |
| Harringay.—55, Wightman-rd., u.t. 83½ yrs., g.r. 7*l.* 10s., r. 38*l.* | 370 |
| Holloway.—37, Orpingley-rd., u.t. 76 yrs., gr. 5*l.* | 215 |
| Cherry Hinton, Cambs.—A freehold house, bake-house, and cottage, r. 20*l.* | 225 |

By TOWERS, ELLIS, & CO.

| | |
|---|---|
| Finchley.—Leicester-rd., f.g.r.'s 28*l.*, reversion in 83 yrs. | 670 |
| Lincoln-rd., f.g.r. 10*l.*, reversion in 83 yrs. | 245 |
| Dulwich.—103, Croxted-rd., r. 55*l.*; also l.g.r. 5*l.* 2s. 4d., u.t. 62 yrs., g.r. 12*l.* 16s. 2d. | 585 |

October 4.—By REYNOLDS & EASON.

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|---|---|
| Rotherhithe.—231 to 239 (odd), Deptford Lower-rd., u.t. 50 yrs., g.r. nil, r. 200*l.* | 2,665 |
| Deptford Lower-rd., i.g.r. 6*l.* 5s., u.t. 50 yrs., g.r. 2*l.* 11s. 5d. | 100 |
| Mile End.—24, 26, and 28, Bridge-st.; also i.g.r. 4*l.*, u.t. 6 yrs., g.r. 10*l.* | 180 |

By R. N. WHALEY (at Lincoln).

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|---|---|
| Bucknall, Lincs.—Hartings Farm, 131 a. 0 r. 23 p., f. | 1,800 |

October 7.—By WM. HOUGHTON.

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|---|---|
| Woodford.—Whitehall-rd., Langbourne Lodge and 5 a. 2 r. 37 p., f. | 3,185 |
| Walthamstow.—1, Mansfield-rd. and premises adjoining, f. | 450 |

By FRED. VARLEY.

| | |
|---|---|
| Highbury.—21, Mentone-rd., u.t. 63 yrs., g.r. 7*l.*, e.r. 50*l.* | 530 |
| Crouch Hill.—8, Almington-st., u.t. 69 yrs., g.r. 6*l.*, r. 39*l.* | 270 |
| Holloway.—45, Corbyn-st., u.t. 69 yrs., g.r. 5*l.* 10s. | 260 |

October 8.—By H. DONALDSON & SON.

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|---|---|
| Islington.—281 to 287 (odd), Liverpool-rd., and 1 and 1a, Lofting-rd., u.t. 7¾ yrs., g.r. 16*l.*, r. 260*l.* | £700 |
| Kingsland.—463, Kingsland-rd., u.t. 24 yrs., g.r. 60*l.*, r. 38*l.* | 350 |
| 6 and 8, Englefield-rd., u.t. 24 yrs., g.r. 10*l.*, r. 64*l.* | 470 |
| Dalston.—14, Wayland-av., u.t. 64 yrs., g.r. 5*l.* 15s., r. 38*l.* | 375 |

By GENDLE & SON.

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|---|---|
| Wimbledon.—49, South Park-rd., f., e.r. 55*l.* | 650 |
| 30 to 44 (even), Cowper-rd., u.t. 92 yrs., g.r. 25*l.* 4s. | 1,075 |
| 36, Haydons Park-rd., u.t. 87 yrs., g.r. 5*l.*, e.r. 30*l.* | 280 |

By E. G. HUNT.

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|---|---|
| Notting Hill.—374, Ladbroke-grove, f. | 280 |

By JONES, SON, & DAY.

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|---|---|
| Limehouse.—Grenade-st., f.g.r. 6*l.* 10s., reversion in 1¾ yrs. | 515 |
| Gill-st., f.g.r.'s 34*l.* 17s., reversions in 1¾ and 2¾ yrs. | 2,550 |

October 9.—By DUNCAN & KIMPTON.

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|---|---|
| Portman-sq.—15 and 23, George-st., u.t. 23 yrs., g.r. 80*l.*, r. 225*l.* | 1,560 |

By GREEN & SON (Hammersmith).

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|---|---|
| Watford, Herts.—23 and 24, Carey-pl., f. | 460 |

By ROGER BROS.

| | |
|---|---|
| Forest Hill.—17, Dalmain-rd., u.t. 60 yrs., g.r. 4*l.* 10s., r. 26*l.* | 145 |
| 24 to 30, Chaplin-st., u.t. 59 yrs., g.r. 26*l.* (including mortgage) | 770 |
| Peckham.—41 to 49 (odd), Haymerle-rd., u.t. 73 yrs., g.r. 25*l.* | 1,000 |
| 94 to 100 (even), Adys-rd., u.t. 73 yrs., g.r. 24*l.*, r. 132*l.* | 1,415 |

By SKILTON & GOULDEN.

| | |
|---|---|
| Catford.—8 to 18 (even), Lower Winchester-rd., u.t. 92 yrs., g.r. 30*l.*, r. 156*l.* | 1,330 |

By T. B. WESTACOTT.

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|---|---|
| Holloway.—162, Holloway-rd., f., r. 180*l.* | 4,030 |
| Camden Town.—1A, Murray-st., u.t. 43 yrs., g.r. 10*l.*, e.r. 52*l.* | 370 |

By RAVENSHEAR & MASSY.

| | |
|---|---|
| Ealing.—Albert-villas, f.g.r.'s 15*l.*, reversion in 98 yrs. | 365 |
| Uxbridge-rd., f.g.r. 4*l.*, reversion in 83 yrs. | 100 |
| Uxbridge-rd., f.g.r. 9*l.*, reversion in 77 yrs. | 350 |
| Uxbridge-rd., f.g.r.'s 25*l.*, reversion in 83 yrs. | 700 |
| Uxbridge-rd., f.g.r.'s 35*l.*, reversion in 83 yrs. | 1,235 |
| Bedford-rd., f.g.r.'s 84*l.* and peppercorn g.r.'s, reversion in 77 yrs. | 2,115 |
| Bedford-rd., &c., f.g.r. 14*l.*, reversion in 83 yrs. | 460 |
| Alexandra-rd., f.g.r.'s 14*l.*, reversion in 83 yrs. | 375 |
| Connaught-rd., f.g.r.'s 92*l.*, reversion in 83 yrs. | 2,375 |
| Bayham-rd., peppercorn g.r., reversion in 83 yrs. | 230 |
| Williams-rd., f.g.r.'s 32*l.*, reversion in 77 yrs. | 780 |
| Hope-rd., f.g.r. 7*l.* 10s., reversion in 77 yrs. | 210 |

October 10.—By CHESTERTON & SONS.

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|---|---|
| Kensington.—3, St. Albans-rd., u.t. 29½ yrs., g.r. 9*l.*, r. 100*l.* | 1,420 |

By C. C. & T. MOORE.

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|---|---|
| Forest Gate.—375, Upton-lane, f., e.r. 75*l.* | 1,050 |
| Plaistow.—7, Richmond-st., area 3,300 ft., c. | 415 |

By NEWBON, EDWARDS, & SHEPHARD.

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|---|---|
| Notting Hill.—36, St. Mark's-rd., and 138, Chesterton-rd., u.t. 73½ yrs., g.r. 8*l.*, r. 80*l.* | 1,080 |
| Islington.—139 to 145 (odd), Cloudesley-rd., u.t. 24 yrs., g.r. 14*l.*, r. 104*l.* | 480 |
| Holloway.—65, Parkhurst-rd., u.t. 21½ yrs., g.r. 10*l.*, r. 72*l.* | 325 |
| 212, Tufnell Park-rd., and 40, Warrender-rd., u.t. 55 yrs., g.r. 5s., r. 90*l.* | 1,530 |
| Highbury.—129, Highbury-new-park, u.t. 48 yrs., g.r. 12*l.*, e.r. 90*l.* | 525 |
| Finsbury Park.—116, Queen's-rd., u.t. 75 yrs., g.r. 10*l.* 10s., e.r. 75*l.* | 670 |
| Dalston.—56, Albion-rd., u.t. 40 yrs., g.r. 6*l.* 10s., e.r. 40*l.* | 375 |
| Tottenham.—281, High-rd., u.t. 75 yrs., g.r. 8*l.* 8s., e.r. 38*l.* | 275 |

By POWELL & POWELL.

| | |
|---|---|
| Bayswater.—31 and 32, Caroline-pl., u.t. 15 yrs., g.r. nil | 290 |

By STIMSON & SONS.

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|---|---|
| Dulwich.—48, East Dulwich-rd., area 10,000 ft., f. | 800 |
| Holloway.—47, Nicholay-rd., u.t. 76 yrs., g.r. 6*l.*, r. 35*l.* | 320 |
| Crouch Hill.—Ashley-rd., f.g.r. 8*l.*, reversion in 74 yrs. | 225 |
| Wimbledon.—19, Herbert-rd., f., e.r. 36*l.* | 540 |
| Bermondsey.—Lynton-rd., Lynton Cottage, u.t. 55 yrs., g.r. 7*l.* 10s., r. 52*l.* | 385 |
| 111 and 113, Fort-rd., u.t. 23 yrs., g.r. 7*l.* | 380 |
| 132, Jamaica-rd, f., r. 45*l.* | 525 |
| Old Kent-rd.—27, Hatcham-rd., f., r. 26*l.* | 275 |
| Selhurst.—40, Dagnall-pk., area ½ a., f. | 720 |
| Norwood.—42 and 44, Albert-rd., u.t. 78 yrs., g.r. 10*l.* | 180 |
| Lewisham.—38, 40, and 42, Knowles Hill-cres., u.t. 67 yrs., g.r. 12*l.*, r. 65*l.* | 480 |

By FULLER, MOON, & FULLER (at Croydon).

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|---|---|
| Thornton Heath.—Langdale-rd., 6 plots of land, f. | 540 |
| Bridport-rd., 2 plots of land, f. | 136 |
| Croydon.—196, Brighton-rd., f., r. 35*l.* | 505 |
| Tooting.—45, High-st., f., r. 45*l.* | 970 |

October 11.—By HUNTER & HUNTER.

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|---|---|
| Hyde Park.—34, Craven-ter., f., r. 130*l.* | 1,750 |
| Hammersmith.—54, Caithness-rd., u.t. 88 yrs., g.r. 8*l.* | 530 |
| Stockwell.—Stockwell Park-rd., i.g.r. 14*l.* 8s., u.t. 40 yrs., g.r. 7*l.* | 120 |

By MULLETT, BOOKER, & CO.

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|---|---|
| Hyde Park.—62, Westbourne-ter., and 62, Gloucester-mews East, u.t. 35¾ yrs., g.r. 35*l.*, r. 250*l.* | 2,350 |
| 82, Westbourne-ter., u.t. 36 yrs., g.r. 5*l.*, r. 230*l.* | 2,150 |
| 14, Upper Westbourne-ter., u.t. 47¼ yrs., g.r. 8*l.*, r. 65*l.* | 500 |
| Acton.—30, Brougham-rd., f., r. 30*l.* | 425 |

By A. W. TAYLOR & CO.

| | |
|---|---|
| Romford.—Globe-rd., Lynwood House, f., r. 25*l.* | 400 |

***Contractions used in these lists.***—**F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.**

# COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

*(For some Contracts, &c., still open, but not included in this List, see previous issues.)*

## COMPETITIONS.

| Nature of Work. | By whom Required. | Premiums. | Designs to be delivered |
|---|---|---|---|
| *Isolation Hospital | Burslem Corporation | 100*l.* and 50*l.* | Dec. 30 |
| *New Art School | Hull Corporation | 100*l.*, 60*l.*, and 40*l.* | Jan. 31 |
| *New Buildings, and Laying-out and Fencing Field | Governors, Northampton School.. | 25 guineas to second | No date |
| *Municipal Buildings | Stockport Corporation | Not stated | do. |

## CONTRACTS.

| Nature of Work or Materials. | By whom Advertised. | Forms of Tender, &c., Supplied by | Tenders to be delivered |
|---|---|---|---|
| House, Fitzhamon Embankment, Cardiff | The Rev. H. A. Coe | Veall & Sant, Architects, Cardiff | Oct. 22 |
| Cemetery Wall, Ongar-road | Brentwood (Essex) U.D.C. | J. E. Fothergill, Surveyor, Town Hall, Brentwood | do. |
| Goods Shed, Leamington | Great Western Railway Co. | G. K. Mills, Paddington Station, W. | do. |
| *Roadmaking Works | Bromley U.D.C. | Surveyor, District Council Offices, Bromley, Kent | do. |
| *Additions to Hospital | Willesden District Council | O. Claude Robson, Engineer, Dyne-road, Kilburn | do. |
| Road Metal | Barnard Castle U.D.C. | J. I. Dawson, Council Offices, Barnard Castle | do. |
| Reroofing Art Gallery, Lichfield-street | Wolverhampton Corporation | Borough Engineer, Town Hall, Wolverhampton | do. |
| Sewers, &c., High-street | Ilfracombe U.D.C. | C. G. Barnett, Town Hall, Ilfracombe | do. |
| *Sewage Work | Stansted District Council | J. M. Knight, 35, Bancroft-road, Mile End, E. | Oct. 23 |
| House | Abbotskerswell (Devon) Sch. Bd. | S. Segar, Architect, Union-street, Newton Abbot | do. |
| Warehouse Roof, &c. | Stockton-on-Tees Corporation | Borough Engineer, Borough Hall, Stockton | do. |
| Hotel, Inverurie, N.B. | Londonderry Co-op. Society | G. Gray, Architect, 133, High-street, Inverurie | do. |
| Additions to Business Premises | Edinburgh Water Trustees | Secretary, 59, Strand-road, Londonderry | do. |
| Additions to Nos. 8 to 16, St. Giles-street | Mr. R. Newman | D. & J. Bryce, Architects, 131, George-street, Edinburgh | do. |
| Road Works, Harlington, Hounslow | Kilkenny R.D.C. | C. W. Manning, Surveyor, London-road, Ashford | do. |
| Culvert, Damma | Mr. G. E. Moser | K. Comerford, Council Offices, Kilkenny | Oct. 24 |
| Additions to House, High Nibthwaite | Appleby Trust | J. Stalker, Architect, Kendal | do. |
| Alterations to Cottages, Alnmouth | Aston Manor U.D.C. | G. Reavell, jun., Architect, Alnwick | do. |
| Schools, Fylde-road, Preston | Richmond (Surrey) Town Council | W. H. Dinsley, Architect, Cleveland-street, Chorley | do. |
| Lavatory, Aston Park | Foster's Trustees | G. H. Jack, Civil Engineer, Council House, Aston Manor | do. |
| Villa, Nairn, N.B. | Carnarvon Town Council | C. C. Doig, Architect, Elgin | do. |
| Sewers | Warrington Corporation | J. H. Brierley, Borough Surveyor, Town Hall, Richmond | do. |
| Street Works, Marlborough-street, Londonderry | Salford Guardians | M. A. Robinson, Civil Engineer, Richmond-street, Londonderry | do. |
| Clock Tower at the Guildhall | Durham Standing Joint Comtee. | E. Hall, Borough Surveyor, Carnarvon | do. |
| Reservoir Works | do. | J. Deas, Civil Engineer, Municipal Offices, Warrington | do. |
| Alterations, &c., to National Schools, Youghal | West Hartlepool Corporation | R. Walker & Son, Architects, 17, South Mall, Cork | do. |
| Galvanised Roofings, &c., Hope | Chorlton, &c., Joint Committee | F. Townson, Union Offices, Salford | Oct. 25 |
| Police Court, Hebburn | North Shields Indus. Soc., Ltd. | W. Crozier, Civil Engineer, Shire Hall, Durham | do. |
| Police Station, Southwick-on-Wear | Glasgow Corporation | do. | do. |
| Sewerage Works, York-road | Blackpool Corporation | J. W. Brown, Borough Engineer, Town Hall, West Hartlepool | do. |
| Alterations to Carmel Methodist Chapel, Aberavon | Llandudno U.D.C. | G. P. Davies, Architect, Station-road, Port Talbot | do. |
| Sheds, &c., Ancoates | Rochford Union | A. J. Murgatroyd, Architect, 23, Strutt-street, Manchester | do. |
| Additions to Golf View Hotel, Nairn | Great Northern Rly. Co. (Ireland) | C. C. Doig, Architect, Elgin | do. |
| Additions to Schools, Thorpe-le-Soken, Essex | do. | C. E. Butcher, Architect, 3, Queen-street, Colchester | Oct. 26 |
| Business Premises, Whitley | Broughton School Board | Hope & Maxwell, Architects, Saville-street, North Shields | do. |
| Roof at Depot, Coplawhill | Selby (Yorks) U.D.C. | Sir J. D. Marwick, City Chambers, Glasgow | do. |
| Granite, &c., Road Metal (6,000 tons) | Chalford School Board | J. S. Brodie, Borough Surveyor, Town Hall, Blackpool | do. |
| Cast-iron Pipes | Horbury (Yorks) U.D.C. | E. G. Stephenson, Civil Engineer, Council Offices, Llandudno | Oct. 28 |
| *Women's Wards at Workhouse Infirmary | Glasgow Parish Council | Greenhalgh & Brockbank, Architects, Southend-on-Sea | do. |
| Roof Works, Great Victoria-street Station | Darlington Corporation | T. Morrison, Amiens-street Terminus, Dublin | do. |
| Station Master's House, Moira | Eastbourne Corporation | do. | do. |
| Schools, Brynteg, near Wrexham | Willenhall U.D.C. | R. J. Kendrick, 1, Henblas-street, Wrexham | do. |
| Sewers, &c. | Pontypool Guardians | B. M. Gray, Civil Engineer, Town Hall, Selby | do. |
| Schools, Chalford Hill, Glos. | Otley (Yorks) U.D.C. | V. A. Lawson, Architect, 17, Rowcroft, Stroud | do. |
| Offices, &c. | Brentford Union | W. Hanstock & Son, Architects, Branch-road, Batley | do. |
| Hospital, Duke-street | Fulham Council | J. Baxter, 243, St. Vincent-street, Glasgow | do. |
| Farmhouse, Cowbridge, Wales | Commissioners of H.M. Works, &c. | D. Evans, Eastbourne House, Cowbridge | do. |
| Lavatory, Market Place | Wandsworth & Clapham Union | Borough Surveyor, Town Hall, Darlington | do. |
| Sanitary Conveniences, Grand Parade | Middlesex County Council | R. M. Gloyne, Civil Engineer, Town Hall, Eastbourne | do. |
| Disinfecting Station at Outfall Works | Edinburgh, &c., Water Trustees | T. E. Fellows, Civil Engineer, Town Hall, Willenhall | do. |
| *Car Shed, Workshops and Offices, Northfleet | G. R. Fitzroy Cole, Esq. | Chief Engineer, Donington House, Norfolk-street, W.C. | do. |
| *Purchase of Mansion | Lancashire Asylums Board | W. Newton Dunn, Architect, 1, Bucklersbury, E.C. | do. |
| Chimney Stacks, Griffithstown | Barrow-in-Furness School Board | T. Watkins, Union Offices, Pontypool | Oct. 29 |
| Reservoir, &c., Middleton | Tottenham U.D.C. | J. Waugh, Civil Engineer, Tunbridge Chambers, Bradford | do. |
| *Iron Escape Staircase | Devizes Joint Hospital Committee | Clerk to Guardians, Union Offices, Isleworth, W. | do. |
| *Making-up and Paving Roads | Camberwell Guardians | C. Botterill, Surveyor, Fulham | Oct. 30 |
| *Sorting Office for Postmen, Brockley | Chiswick U.D.C. | J. Wager, H.M. Office of Works, Storey's Gate, S.W. | Oct. 31 |
| *Erection of School | Ince (Lancs) U.D.C. | Lansdell & Harrison, Architects, 65, Basinghall-street, E.C. | do. |
| *Artificial Stone, Granite Kerbing, &c. | Commissioners of H.M. Works, &c. | County Engineer, Guildhall, Westminster | Nov. 1 |
| Water Supply Works, Fairmilehead | Wimbledon U.D.C. | W. A. Tait, Engineer, 72A, George-street, Edinburgh | do. |
| *Roadmaking and Sewers, Twickenham | Pembroke Guardians | G. F. Sharpe, 57, Chancery-lane, W.C. | Nov. 2 |
| *Isolation Hospital | Messrs. J. Folliott & Sons | Willink & Thicknesse, 14, Castle-street, Liverpool | Nov. 4 |
| *Heating New School, Vickerstown | Mr. A. Walker | H. T. Fowler, Ramsden-square, Barrow-in-Furness | do. |
| *Making-up Harold-road | Young Women's Christian Assoc. | W. H. Prescott, Engineer, 712, High-road, Tottenham | Nov. 5 |
| *Isolation Hospital, Devizes | | Bell, Withers, & Meredith, 3, Salters' Hall Court, E.C. | do. |
| *Receiving House, &c. | | A. E. Mullins, Architect, 16, Church-street, Camberwell | Nov. 6 |
| *Isolation Hospital | | A. Ramsden, Surveyor, Town Hall, Chiswick | do. |
| Street Works, &c. | | B. Howgate, Council Offices, Ince | Nov. 9 |
| *New Public Offices, Westminster | | Secretary, H.M. Office of Works, Storey's Gate, S.W. | Nov. 12 |
| *Additional Settling Tanks, &c. | | Engineer, Council Offices, Broadway, Wimbledon | Nov. 20 |
| Infirmary Buildings at Workhouse | | E. H. L. Barker, Architect, 146, St. Owen-street, Hereford | No date |
| Re-building Malthouse, &c., Rollestone-st., Salisbury | | J. Harding & Sons, Architects, 58, High-street, Salisbury | do. |
| Business Premises, Market Hill, Barnsley | | G. Moxon, Architect, 26, Church-street, Barnsley | do. |
| House, Ben Rhydding | | H. S. Fleming, Moorlands, Bingley | do. |
| House, Hereford | | W. W. Robinson, Architect, 10, King-street, Hereford | do. |

## PUBLIC APPOINTMENTS.

| Nature of Appointment. | By whom Advertised. | Salary. | Application to be in |
|---|---|---|---|
| *Inspector of Nuisances | Aylesbury R.D.C. | 175*l.* | Oct. 23 |
| *Clerk of Works | Bideford Corporation | 2*l.* 10s. per week | Oct. 26 |
| *Assistant Surveyor | Lewisham Council | 200*l.* | Oct. 28 |
| *Clerk of Works | Walthamstow School Board | 3*l.* 10s. per week | Oct 30 |
| *Two Temporary Junior Draughtsmen | London County Council | Not stated | No date |

*Those marked with an asterisk (*) are advertised in this Number.* *Competitions, p. iv.* *Contracts, pp. iv. vi. viii. x, & xxiv.* *Public Appointments, pp. xxi, & xxiv.*

# PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

## BRICKS, &c.

| | £ | s. | d. | | | |
|---|---|---|---|---|---|---|
| Hard Stocks | 1 | 12 | 0 | per 1,000 | alongside, | in river. |
| Rough Stocks and Grizzles | 1 | 10 | 0 | ,, | ,, | ,, |
| Facing Stocks | 2 | 12 | 0 | ,, | ,, | ,, |
| Shippers | 2 | 8 | 0 | ,, | ,, | ,, |
| Flettons | 1 | 8 | 0 | ,, | at railway | depôt. |
| Red Wire Cuts | 1 | 14 | 6 | ,, | ,, | ,, |
| Best Fareham Red | 3 | 11 | 0 | ,, | ,, | ,, |
| Best Red pressed Ruabon Facing. | 5 | 5 | 0 | ,, | ,, | ,, |
| Best Blue Pressed Staffordshire | 4 | 6 | 6 | ,, | ,, | ,, |
| Do., Bullnose | 4 | 10 | 0 | ,, | ,, | ,, |
| Best Stourbridge Fire Bricks | 4 | 4 | 0 | ,, | ,, | ,, |
| GLAZED BRICKS | | | | | | |
| Best White and Ivory Glazed Stretchers | 13 | 0 | 0 | ,, | ,, | ,, |
| Headers | 12 | 0 | 0 | ,, | ,, | ,, |
| Quoins, Bullnose, and Flats | 17 | 0 | 0 | ,, | ,, | ,, |
| Double Stretchers | 19 | 0 | 0 | ,, | ,, | ,, |
| Double Headers | 16 | 0 | 0 | ,, | ,, | ,, |
| One Side and two Ends | 19 | 0 | 0 | ,, | ,, | ,, |
| Two Sides and one End | 20 | 0 | 0 | ,, | ,, | ,, |
| Splays, Chamfered, Squints | 20 | 0 | 0 | ,, | ,, | ,, |
| Best Dipped Salt Glazed Stretchers and Headers | 12 | 0 | 0 | ,, | ,, | ,, |
| Quoins, Bullnose, and Flats | 14 | 0 | 0 | ,, | ,, | ,, |
| Double Stretchers | 15 | 0 | 0 | ,, | ,, | ,, |
| Double Headers | 14 | 0 | 0 | ,, | ,, | ,, |
| One Side and two Ends | 15 | 0 | 0 | ,, | ,, | ,, |
| Two Sides and one End | 15 | 0 | 0 | ,, | ,, | ,, |
| Splays, Chamfered, Squints | 14 | 0 | 0 | ,, | ,, | ,, |
| Seconds Quality White and Dipped Salt Glazed | 2 | 0 | 0 | ,, | less than best. | |

| | s. | d. | | |
|---|---|---|---|---|
| Thames and Pit Sand | 7 | 3 | per yard, | delivered |
| Thames Ballast | 6 | 0 | ,, | |
| Best Portland Cement | 32 | 0 | per ton, | delivered. |
| Best Ground Blue Lias Lime | 25 | 6 | ,, | ,, |

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 12s 6d. per yard, delivered.
Stourbridge Fire-clay in sacks, 28s. od. per ton at rly. dpt.

## STONE.

| | s. | d. | | |
|---|---|---|---|---|
| Ancaster in blocks | 2 | 0 | per ft. cube, | deld. rly. depôt. |
| Bath ,, | 1 | 7 | ,, | ,, |
| Farleigh Down Bath | 1 | 8 | ,, | ,, |
| Beer in blocks | 1 | 6½ | ,, | ,, |
| Grinshill ,, | 1 | 10 | ,, | ,, |
| Brown Portland in blocks | 2 | 2 | ,, | ,, |
| Darley Dale in blocks | 2 | 1½ | ,, | ,, |
| Red Corsehill ,, | 2 | 5 | ,, | ,, |
| Red Mansfield ,, | 2 | 4½ | ,, | ,, |
| Hard York in blocks | 2 | 10 | ,, | ,, |
| Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.) | 2 | 8 | per ft. super at rly. depôt | |
| ,, ,, 6 in. Rubbed Ditto | 3 | 0 | ,, | ,, |
| ,, ,, 3 in. sawn both sides slabs (random sizes) | 1 | 3 | ,, | ,, |
| ,, ,, 2 in. self-faced Ditto | 0 | 9½ | ,, | ,, |
| Hopton Wood (Hard Bed) in blocks | 2 | 3 | per ft. cube. deld. rly. depôt | |
| ,, ,, 6-in sawn both sides landings | 2 | 7 | per ft. super. deld. rly. depôt. | |
| ,, ,, 3-in. do. | 1 | 2½ | ,, | ,, |

## SLATES.

| in. | in. | £ | s. | d. | | |
|---|---|---|---|---|---|---|
| 20 | 10 best blue Bangor | 11 | 5 | 0 | per 1000 of 1200 | at ry. dep. |
| ,, | best seconds ,, | 10 | 15 | 0 | ,, | ,, |
| 16 | 8 best ,, | 6 | 2 | 6 | ,, | ,, |
| 20 | 10 best blue Portmadoc | 10 | 18 | 0 | ,, | ,, |
| 16 | 8 best blue Portmadoc | 6 | 0 | 0 | ,, | ,, |
| 20 | 10 best Eureka unfading green | 11 | 2 | 6 | ,, | ,, |
| 16 | 8 ,, ,, | 6 | 15 | 0 | ,, | ,, |
| 20 | 10 Permanent green | 10 | 0 | 0 | ,, | ,, |
| 16 | 8 ,, ,, | 5 | 12 | 6 | ,, | ,, |

## TILES.

| | s. | d. | | |
|---|---|---|---|---|
| Best plain red roofing tiles | 41 | 6 | per 1,000 | at rly. depôt |
| Hip and valley tiles | 3 | 7 | per doz. | ,, ,, |
| Best Broseley tiles | 48 | 6 | per 1,000 | ,, ,, |
| Hip and valley tiles | 4 | 0 | per doz. | ,, ,, |
| Best Ruabon Red, brown or brindled Do. (Edwards) | 57 | 6 | per 1,000 | ,, ,, |
| Do. ornamental Do. | 60 | 0 | ,, | ,, ,, |
| Hip tiles | 4 | 0 | per doz. | ,, ,, |
| Valley tiles | 3 | 9 | ,, | ,, ,, |
| Best Red or Mottled Staffordshire Do. (Peakes) | 50 | 9 | per 1,000 | ,, ,, |
| Hip tiles | 4 | 1 | per doz. | ,, ,, |
| Valley tiles | 3 | 8 | ,, | ,, ,, |

# PRICES CURRENT (*Continued*).

## WOOD.

### BUILDING WOOD.—YELLOW.

| | At per standard. £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Deals: best 3 in. by 11 in. and 4 in. by 9in. and 11 in. | 14 | 10 | 0 | 16 | 10 | 0 |
| Deals: best 3 by 9 | 13 | 10 | 0 | 14 | 10 | 0 |
| Battens: best 2½ in. by 7 in. and 8 in. and 3 in. by 7 in. and 8 in. | 11 | 0 | 0 | 12 | 0 | 0 |
| Battens: best 2½ by 6 and 3 by 6 | 0 | 10 | 0 | less than 7 in. and 8 in. | | |
| Deals: seconds | 1 | 0 | 0 | less than best | | |
| Battens: seconds | 0 | 10 | 0 | ,, ,, | ,, | |
| 2 in. by 4 in. and 2 in. by 6 in. | 9 | 0 | 0 | 10 | 10 | 0 |
| 2 in. by 4½ in. and 2 in. by 5 in. | 9 | 0 | 0 | 10 | 0 | 0 |
| Foreign Sawn Boards— 1 in. by 1½ in. by 1½ in. | 0 | 10 | 0 | more than battens. | | |
| ¾ in. | 1 | 0 | 0 | ,, | | |
| Fir timber: Best middling Danzig or Memel (average specification) | At per load of 50 ft. 4 | 10 | 0 | 5 | 0 | 0 |
| Seconds | 4 | 5 | 0 | 4 | 10 | 0 |
| Small timber (8 in. to 10 in.) | 3 | 12 | 6 | 3 | 15 | 0 |
| Swedish balks | 2 | 15 | 0 | 3 | 0 | 0 |
| Pitch pine timber (35 ft. average) | 3 | 0 | 0 | 3 | 10 | 0 |

### JOINERS' WOOD.

| | At per standard. | | | | | |
|---|---|---|---|---|---|---|
| White Sea: First yellow deals, 3 in. by 11 in. | 25 | 0 | 0 | 26 | 0 | 0 |
| 3 in. by 9 in. | 22 | 0 | 0 | 23 | 0 | 0 |
| Battens, 2½ in. and 3 in. by 7 in. | 18 | 0 | 0 | 20 | 0 | 0 |
| Second yellow deals, 3 in. by 11 in. | 20 | 0 | 0 | 21 | 0 | 0 |
| ,, ,, 3 in. by 9 in. | 18 | 0 | 0 | 19 | 0 | 0 |
| Battens, 2½ in. and 3 in. by 7 in. | 14 | 0 | 0 | 15 | 0 | 0 |
| Third yellow deals, 3 in. by 11 in. and 9 in. | 14 | 10 | 0 | 15 | 10 | 0 |
| Battens, 2½ in. and 3 in. by 7 in. | 12 | 0 | 0 | 12 | 10 | 0 |
| Petersburg: first yellow deals, 3 in. by 11 in. | 22 | 0 | 0 | 23 | 0 | 0 |
| Do. 3 in. by 9 in. | 19 | 0 | 0 | 20 | 0 | 0 |
| Battens | 14 | 0 | 0 | 15 | 0 | 0 |
| Second yellow deals, 3 in. by 11 in. | 15 | 10 | 0 | 16 | 10 | 0 |
| Do. 3 in. by 9 in. | 14 | 0 | 0 | 15 | 0 | 0 |
| Battens | 11 | 10 | 0 | 12 | 0 | 0 |
| Third yellow deals, 3 in. by 11 in. | 13 | 10 | 0 | 14 | 10 | 0 |
| Do. 3 in. by 9 in. | 13 | 0 | 0 | 13 | 10 | 0 |
| Battens | 10 | 10 | 0 | 11 | 10 | 0 |
| White Sea and Petersburg:— First white deals, 3 in. by 11 in. | 15 | 0 | 0 | 16 | 0 | 0 |
| ,, ,, ,, 3 in. by 9 in. | 14 | 0 | 0 | 15 | 0 | 0 |
| Battens | 12 | 0 | 0 | 13 | 0 | 0 |
| Second white deals 3 in. by 11 in. | 14 | 0 | 0 | 15 | 0 | 0 |
| ,, ,, ,, 3 in. by 9 in. | 13 | 0 | 0 | 14 | 0 | 0 |
| ,, ,, battens | 10 | 10 | 0 | 11 | 10 | 0 |
| Pitch pine: deals | 16 | 0 | 0 | 18 | 0 | 0 |
| Under 2 in. thick extra | 0 | 10 | 0 | 1 | 0 | 0 |
| Yellow Pine— First, regular sizes | 30 | 0 | 0 | 33 | 0 | 0 |
| Broads (12 in. and up) | 2 | 0 | 0 | more. | | |
| Oddments | 22 | 0 | 0 | 24 | 0 | 0 |
| Seconds, regular sizes | 24 | 10 | 0 | 26 | 10 | 0 |
| Yellow Pine Oddments | 20 | 0 | 0 | 22 | 0 | 0 |
| Kauri Pine—Planks, per ft. cube | 0 | 3 | 6 | 0 | 4 | 6 |
| Danzig and Stettin Oak Logs— Large, per ft. cube | 0 | 2 | 6 | 0 | 3 | 0 |
| Small ,, ,, | 0 | 2 | 3 | 0 | 2 | 6 |
| Wainscot Oak Logs, per ft. cube | 0 | 5 | 0 | 0 | 5 | 6 |
| Dry Wainscot Oak, per ft. sup. as inch | 0 | 0 | 8 | 0 | 0 | 7 |
| in. do. do. | 0 | 0 | 7 | - | - | - |
| Dry Mahogany— Honduras, Tabasco, per ft. sup. as inch | 0 | 0 | 9 | 0 | 0 | 11 |
| Selected, Figury, per ft. sup. as inch | 0 | 1 | 6 | 0 | 2 | 0 |
| Dry Walnut, American, per ft. sup. as inch | 0 | 0 | 10 | 0 | 1 | 0 |
| Teak, per load | 16 | 0 | 0 | 20 | 0 | 0 |
| American Whitewood Planks— Per ft. cube | 0 | 3 | 0 | 0 | 3 | 6 |
| Prepared Flooring— | Per Square | | | | | |
| 1 in. by 7 in. yellow, planed and shot | 0 | 13 | 6 | 0 | 16 | 6 |
| 1 in. by 7 in. yellow, planed and matched | 0 | 13 | 6 | 0 | 17 | 6 |
| 1¼ in. by 7 in. yellow, planed and matched | 0 | 16 | 0 | 1 | 1 | 0 |
| 6 in. at 6d. per square less than 7 in. | | | | | | |
| 1 in. by 7 in. white, planed and shot | 0 | 11 | 0 | 0 | 13 | 0 |
| 1 in. by 7 in. white, planed and matched | 0 | 11 | 6 | 0 | 13 | 6 |
| 1¼ in. by 7 in. white, planed and matched | 0 | 14 | 0 | 0 | 16 | 6 |
| 6 in. at 6d. per square less than 7 in. | | | | | | |

## JOISTS, GIRDERS, &c.

| | In London, or delivered to Railway Vans, per ton. £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Rolled Steel Joists, ordinary sections | 6 | 15 | 0 | 7 | 15 | 0 |
| Compound Girders ,, ,, | 8 | 15 | 0 | 10 | 0 | 0 |
| Angles, Tees and Channels, ordinary sections | 8 | 12 | 6 | 10 | 12 | 6 |
| Flitch Plates | 8 | 15 | 0 | 9 | 10 | 0 |
| Cast Iron Columns and Stanchions, including ordinary patterns | 7 | 5 | 0 | 9 | 0 | 0 |

## METALS.

| | Per ton, in London. £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| IRON.— Common Bars | 8 | 0 | 0 | 8 | 10 | 0 |
| Staffordshire Crown Bars, good merchant quality | 8 | 10 | 0 | 9 | 0 | 0 |
| Staffordshire "Marked Bars" | 10 | 10 | 0 | - | - | - |
| Mild Steel Bars | 9 | 0 | 0 | 9 | 10 | 0 |
| Hoop Iron, basis price | 9 | 5 | 0 | 9 | 15 | 0 |
| ,, ,, galvanised | 16 | 0 | 0 | - | - | - |
| (* And upwards, according to size and gauge.) | | | | | | |
| Sheet Iron, Black.— Ordinary sizes to 20 g. | 10 | 0 | 0 | - | - | - |
| ,, ,, to 24 g. | 11 | 0 | 0 | - | - | - |
| ,, ,, to 26 g. | 12 | 10 | 0 | - | - | - |

# PRICES CURRENT (*Continued*).

## METALS.

| | Per ton, in London. £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| IRON— Sheet Iron, Galvanised, flat, ordinary quality.— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. | 12 | 10 | 0 | . | . | . |
| ,, ,, 22 g. and 24 g. | 13 | 0 | 0 | . | . | . |
| ,, ,, 26 g. | 14 | 0 | 0 | . | . | . |
| Sheet Iron, galvanised, flat, best quality.— Ordinary sizes to 20 g. | 16 | 10 | 0 | . | . | . |
| ,, ,, 22 g. and 24 g. | 17 | 0 | 0 | . | . | . |
| ,, ,, 26 g. | 18 | 10 | 0 | . | . | . |
| Galvanised Corrugated Sheets.— Ordinary sizes, 6 ft. to 8 ft. 20 g. | 12 | 10 | 0 | . | . | . |
| ,, ,, 22 g. and 24 g. | 13 | 0 | 0 | . | . | . |
| ,, ,, 26 g. | 14 | 0 | 0 | . | . | . |
| Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker | 12 | 5 | 0 | . | . | . |
| ,, ,, 22 g. and 24 g. | 13 | 5 | 0 | . | . | . |
| ,, ,, 26 g. | 14 | 5 | 0 | . | . | . |
| Cut nails, 3 in. to 6 in. (Under 3 in. usual trade extras.) | 9 | 10 | 0 | 10 | 0 | |

## LEAD, &c.

| | Per ton, in London. £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| LEAD—Sheet, English, 3 lbs. & up. | 14 | 10 | 0 | . | . | . |
| Pipe in coils | 15 | 0 | 0 | . | . | . |
| Soil Pipe | 17 | 10 | 0 | . | . | . |
| ZINC—Sheet— Vieille Montagne ton | 24 | 10 | 0 | . | . | . |
| Silesian | 24 | 0 | 0 | . | . | . |
| COPPER— Strong Sheet per lb. | 0 | 1 | 0½ | . | . | . |
| Thin ,, | 0 | 1 | 2 | . | . | . |
| Copper nails ,, | 0 | 1 | 2 | . | . | . |
| BRASS— Strong Sheet ,, | 0 | 0 | 11 | . | . | . |
| Thin ,, | 0 | 1 | 1 | . | . | . |
| TIN—English Ingots ,, | 0 | 1 | 3½ | . | . | . |
| SOLDER—Plumbers' ,, | 0 | 0 | 6½ | . | . | . |
| Tinmen's ,, | 0 | 0 | 8 | . | . | . |
| Blowpipe ,, | 0 | 0 | 9 | . | . | . |

## ENGLISH SHEET GLASS IN CRATES.

| | | | |
|---|---|---|---|
| 15 oz. thirds | 3d. | per ft. | delivered. |
| ,, ,, fourths | 2¾d. | ,, | ,, |
| 21 oz. thirds | 3¾d. | ,, | ,, |
| ,, ,, fourths | 3½d. | ,, | ,, |
| 26 oz. thirds | 5d. | ,, | ,, |
| ,, ,, fourths | 4½d. | ,, | ,, |
| 32 oz. thirds | 6d. | ,, | ,, |
| ,, ,, fourths | 5½d. | ,, | ,, |
| Fluted sheet, 15 oz. | 3½d. | ,, | ,, |
| ,, ,, 21 ,, | 4½d. | ,, | ,, |
| ½ Hartley's Rolled Plate | 2¾d. | ,, | ,, |
| ⅝ ,, ,, ,, | 3¼d. | ,, | ,, |
| ¾ ,, ,, ,, | 3¾d. | ,, | ,, |

## OILS, &c.

| | £ | s. | d. |
|---|---|---|---|
| Raw Linseed Oil in pipes per gallon | 0 | 2 | 9 |
| ,, ,, ,, in barrels ,, | 0 | 2 | 10 |
| ,, ,, ,, in drums ,, | 0 | 3 | 0 |
| Boiled ,, ,, in pipes ,, | 0 | 2 | 11 |
| ,, ,, ,, in barrels ,, | 0 | 3 | 0 |
| ,, ,, ,, in drums ,, | 0 | 3 | 2 |
| Turpentine, in barrels ,, | 0 | 2 | 3 |
| ,, in drums ,, | 0 | 2 | 5 |
| Genuine Ground English White Lead ...per ton | 22 | 0 | 0 |
| Red Lead, Dry ,, | 22 | 10 | 0 |
| Best Linseed Oil Putty ..per cwt. | 0 | 9 | 0 |
| Stockholm Tar per barrel | 1 | 10 | 0 |

## VARNISHES, &c.

| | per gallon. £ | s. | d |
|---|---|---|---|
| Fine Elastic Copal Varnish for outside work | 0 | 16 | 6 |
| Best Elastic Copal Varnish for outside work | 1 | 0 | 0 |
| Best Elastic Carriage Varnish for outside work | 0 | 16 | 0 |
| Best Hard Oak Varnish for inside work | 0 | 10 | 6 |
| Best Extra Hard Church Oak Varnish for inside work | 0 | 10 | 6 |
| Fine Hard Copal Varnish for inside work | 0 | 16 | 0 |
| Best Hard Copal Varnish for inside work | 1 | 0 | 0 |
| Best Hard Carriage Varnish for inside work | 0 | 16 | 0 |
| Extra Pale Paper Varnish | 0 | 12 | 0 |
| Best Japan Gold Size | 0 | 10 | 6 |
| Best Black Japan | 0 | 16 | 0 |
| Oak and Mahogany Stain | 0 | 9 | 0 |
| Brunswick Black | 0 | 8 | 6 |
| Berlin Black | 0 | 16 | 0 |
| Knotting | 0 | 10 | 0 |
| Best French and Brush Polish | 0 | 10 | 0 |

# TO CORRESPONDENTS.

B. B. (Below our limit).

**NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.**

***We cannot undertake to return rejected communications.***

**Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.**

**We are compelled to decline pointing out books and giving addresses.**

**Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.**

**All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.**

## TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is given, nor any list in which the lowest tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

BRIDLINGTON.—For the erection of central schools and caretaker's residence, Oxford-street, for the School Board. Mr. J. Earnshaw, architect, Bridlington :—

| | | | |
|---|---|---|---|
| J. Rennard.. | £16,533 19 0 | Smallwood & Shaw .... | £13,978 2 0 |
| Palframan .. | 15,451 6 9 | A. Gardam.. | 13,780 2 0 |
| J. B. Allatt.. | 15,043 11 0 | J. H. Hudson | 13,496 5 8 |
| Taylor, Ltd. | 14,566 16 0 | J. Sawdon .. | 13,495 0 0 |
| E. Corner .. | 14,397 0 0 | T. Spink .... | 12,930 1 5 |
| A. Lyon .... | 14,298 0 0 | Sampson & Siddall, Bridlington* .... | 12,590 11 11 |
| Blackburn & Son ..... | 14,095 0 0 | | |

CHORLTON-CUM-HARDY.—For the erection of Primitive Methodist church. Messrs. Moulds & Porritt, architects, 77, King-street, Manchester. Quantities by the architects :—

| | | | |
|---|---|---|---|
| Byrom .... ..... | £2,370 0 | Bladon ..... | £2,228 0 |
| Rowbotham .... | 2,330 6 | Gerrard* ..... | 2,170 0 |
| Shaw ..... | 2,300 0 | | |

DARTFORD.—For fitting-up the kitchen department of the Joyce Green Hospital, near Dartford, for the Metropolitan Asylums Board. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, E.C. :—

| | | | |
|---|---|---|---|
| Main, Ltd. .. | £2,612 6 0 | Wenham & Waters, Ltd. | £2,009 0 0 |
| Clements, Jeakes & Co. | 2,200 0 0 | J. & F. May.. | 1,877 0 0 |
| Summerscales & Co. .... | 2,145 0 0 | Moorwood, Sons & Co., Ltd.,Sheffield* | 1,688 0 0 |
| Benham & Sons, Ltd... | 2,067 10 6 | | |

ERITH.—For extensions to Infectious Diseases Hospital, for the Urban District Council. Mr. Harold Hind, Surveyor, District Council Offices, Erith :—

| | | | |
|---|---|---|---|
| Leather & Sons | £963 0 0 | Gunning & Sons | £800 0 0 |
| Finnecy & Son | 950 0 0 | Smith & Co. .. | 773 0 0 |
| Lightfoot & Ireland ..... | 893 0 0 | Hawkins & Co. | 750 0 0 |
| T. Crosse ..... | 881 16 9 | W. Harbrow .. | 720 0 0 |
| Portable Building Co., Ltd. | 850 0 0 | G. G. Page .... | 711 0 0 |
| Humphreys,Ltd. | 840 0 0 | Roberts & Co... | 700 0 0 |
| Norton Bros. & Co. ..... | 810 0 0 | Mitson & Co. .. | 650 0 0 |
| E. C. & J. Keay, Ltd. ..... | 801 0 0 | John McManus, Hammersmith, W.*.. | 647 0 0 |

GEDLING (Notts.)—For the erection of two shops for Mr. C. E. Aslin. Mr. Hedley J. Price, architect, 24, Low-pavement, Nottingham :—

| | | | |
|---|---|---|---|
| W. & G. Simons .... | £1,275 0 0 | Pett & Co. .. | £1,128 13 6 |
| J. G. Short .. | 1,256 0 0 | T. Whittaker | 1,120 0 0 |
| A. E. Smith.. | 1,223 0 0 | John Lewin .. | 1,120 0 0 |
| T. & W. Lee | 1,204 0 0 | Geo. Sadler .. | 1,092 0 0 |
| Wm. Maule .. | 1,195 0 0 | T. H. Harper | 1,040 0 0 |
| R. Fisher .... | 1,156 0 0 | Bellamy & Son, Gedling* .. | 1,030 0 0 |
| J. Muscon.... | 1,145 0 0 | | |

GREAT BERKHAMSTED. — For alteration to infirmary, &c., for the Guardians. Mr. Chas. H. Rew, architect, Great Berkhamsted :—

| | | | |
|---|---|---|---|
| G. Jackson ..... | £1,468 0 | T. H. Coleman .. | £1,234 0 |
| Du Pont & Co. .. | 1,413 0 | E. Wright ..... | 1,212 0 |
| J. & J. Goss .... | 1,405 0 | C. Brightman.... | 1,199 0 |
| G. & T. Cannon | 1,347 0 | Honour & Son . | 1,152 0 |
| Waldon & Co.... | 1,323 0 | H. & J. Matthews, Berkhamsted * | 1,110 10 |
| H. Martin ..... | 1,318 0 | | |
| G. Wiggs..... | 1,306 0 | | |

[Architect's estimate, £1,200.]

HALIFAX.—For the erection of stalls, &c., Borough Markets, for the Corporation. Mr. Jas. Lord, C.E., Town Hall, Halifax :—

| | | | |
|---|---|---|---|
| J. Turner ..... | £279 4 2 | C. J. Norvell .. | £272 10 0 |
| S. Earnshaw .. | 274 14 0 | W. Mitchell* .. | 248 17 4 |

[All of Halifax.]

NEATH (Wales).—For the erection of a vicarage, Cadoxton-j-Neath, for the Rev. J. D. James. Mr. Geo. E. Halliday, architect, Cardiff. Quantities by Mr. J. W. Rodger, surveyor, 14, High-street, Cardiff :—

| | | | |
|---|---|---|---|
| W. A. James | £1,697 17 4 | Thomas & Son | £1,555 0 0 |
| W. H. Creighton ..... | 1,640 0 0 | Goodridge & Son, Swansea* | 1,460 0 0 |
| | | C. Gower .... | 1,444 10 0 |

NOTTINGHAM.—For alterations and additions to form three shops, &c., at the junction of Mansfield-road and Forest-road. Mr. Hedley J. Price, architect, 24, Low-pavement, Nottingham :—

| | | | |
|---|---|---|---|
| O. T. Focht-mann ..... | £1,132 18 6 | J. G. Short .. | £1,047 0 0 |
| G. Baron .... | 1,130 13 3 | T. Cuthbert .. | 1,046 0 0 |
| Hutchinson & Son ..... | 1,110 0 0 | J. Musson.... | 1,030 0 0 |
| Scott & Son .. | 1,075 0 0 | Cooper & Son | 1,025 0 0 |
| Green & Son.. | 1,055 9 0 | R. Fisher .... | 1,002 19 0 |
| A. E. Smith.. | 1,052 16 0 | T. & W. Lee | 982 19 0 |
| | | J. J. Adams* | 915 0 0 |

[All of Nottingham.]

SOUTHEND.—For the erection of banking premises, West Cliff, for the Capital and Counties Banking Company, Limited. Messrs. Greenhalgh & Brockbank, architects, Bank Chambers, Southend :—

| | | | |
|---|---|---|---|
| Sheffield Bros..... | £3,997 | Davis & Leaney, Southend*..... | £3,267 |
| Howard Bros..... | 3,712 | W. Stubbs..... | 3,096 |
| F. & E. Davey .... | 3,347 | | |


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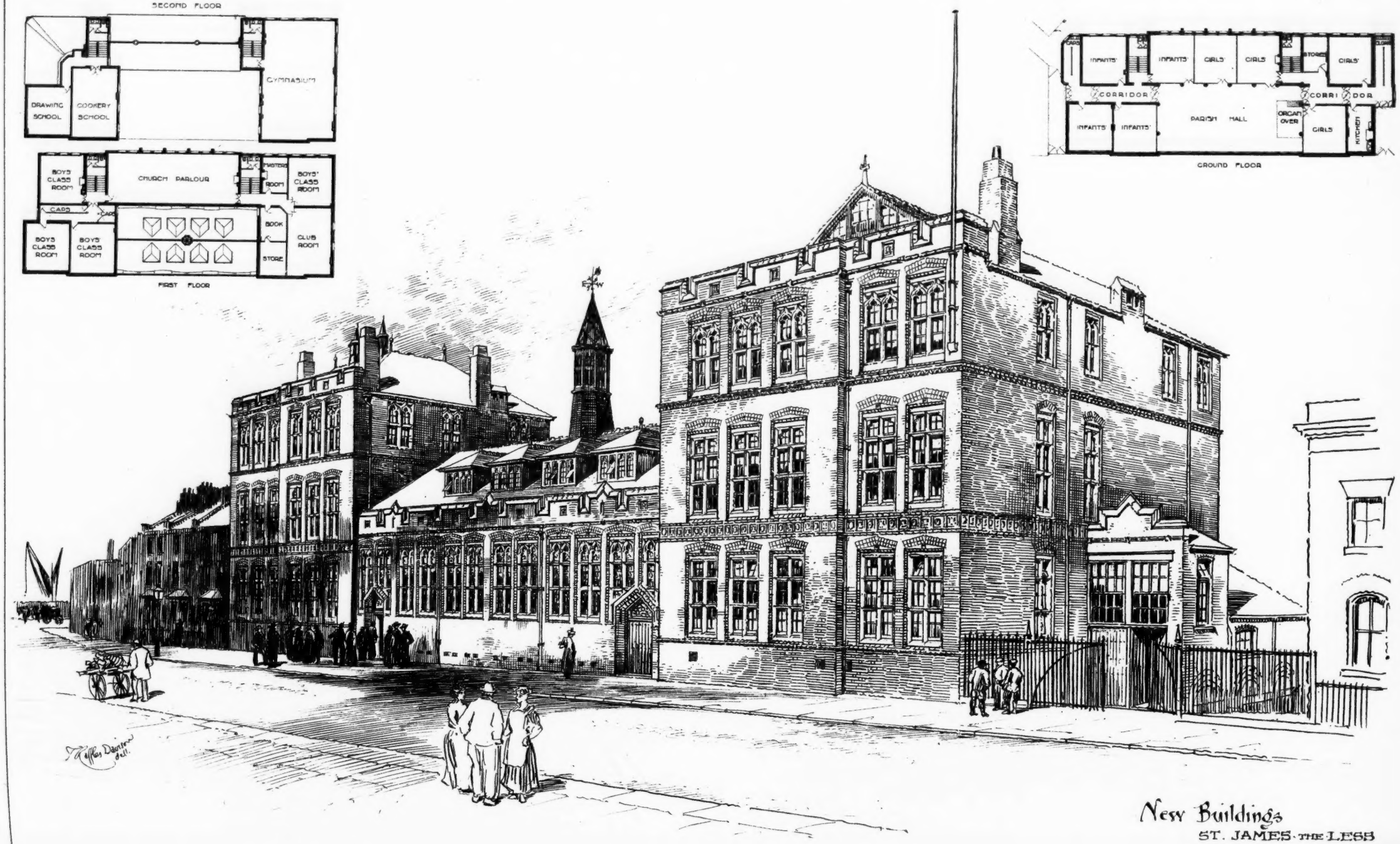

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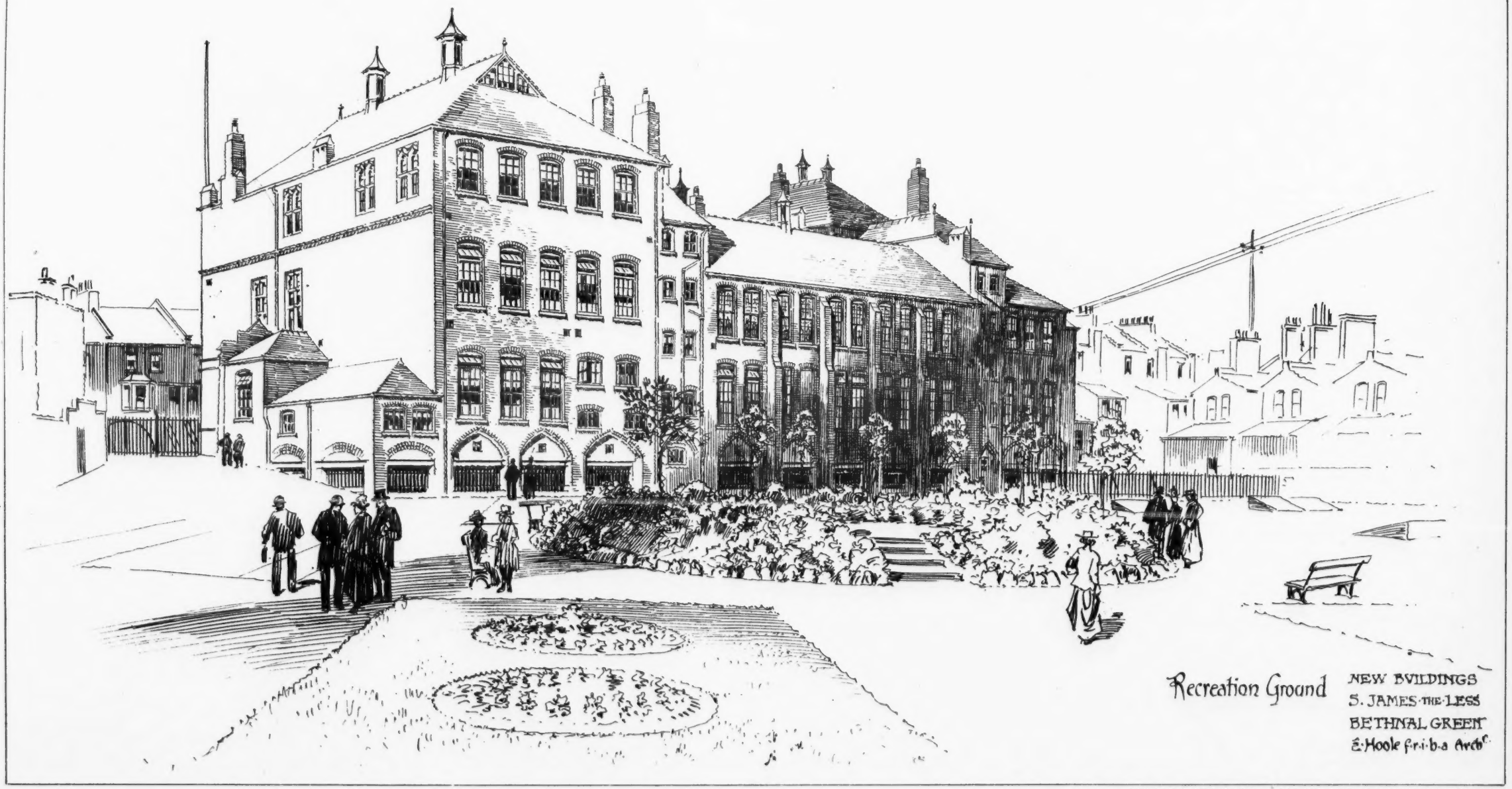

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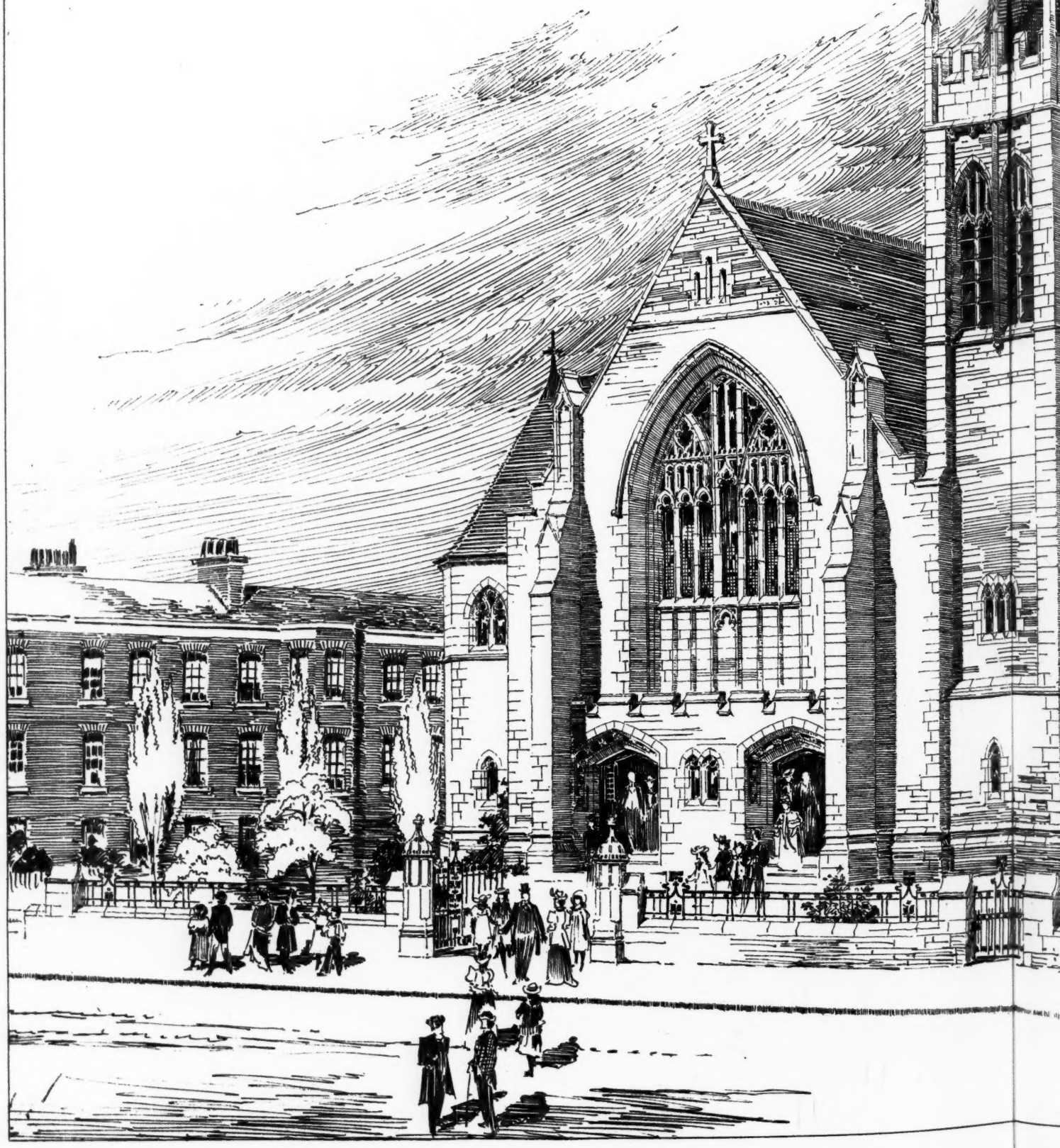

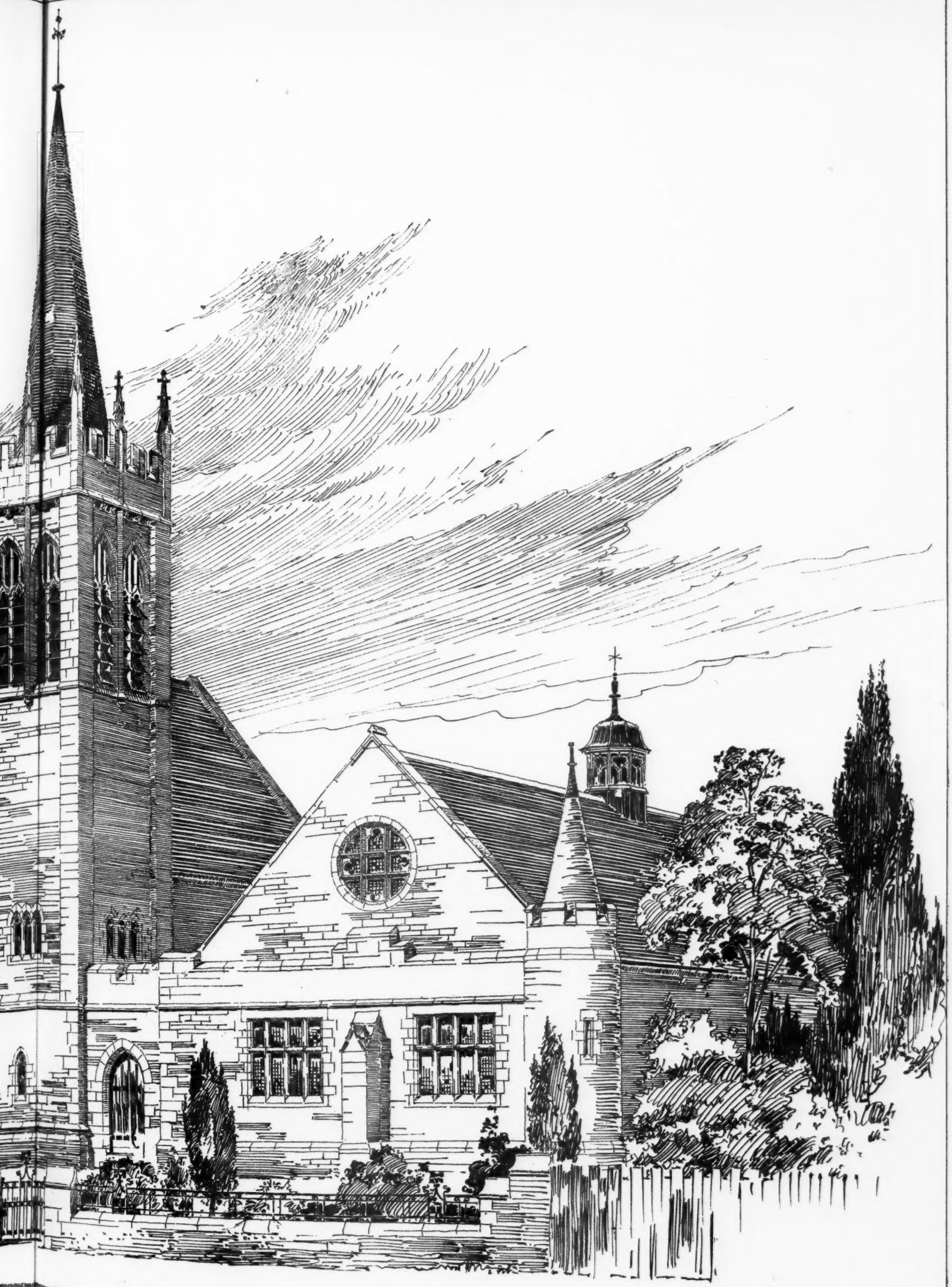

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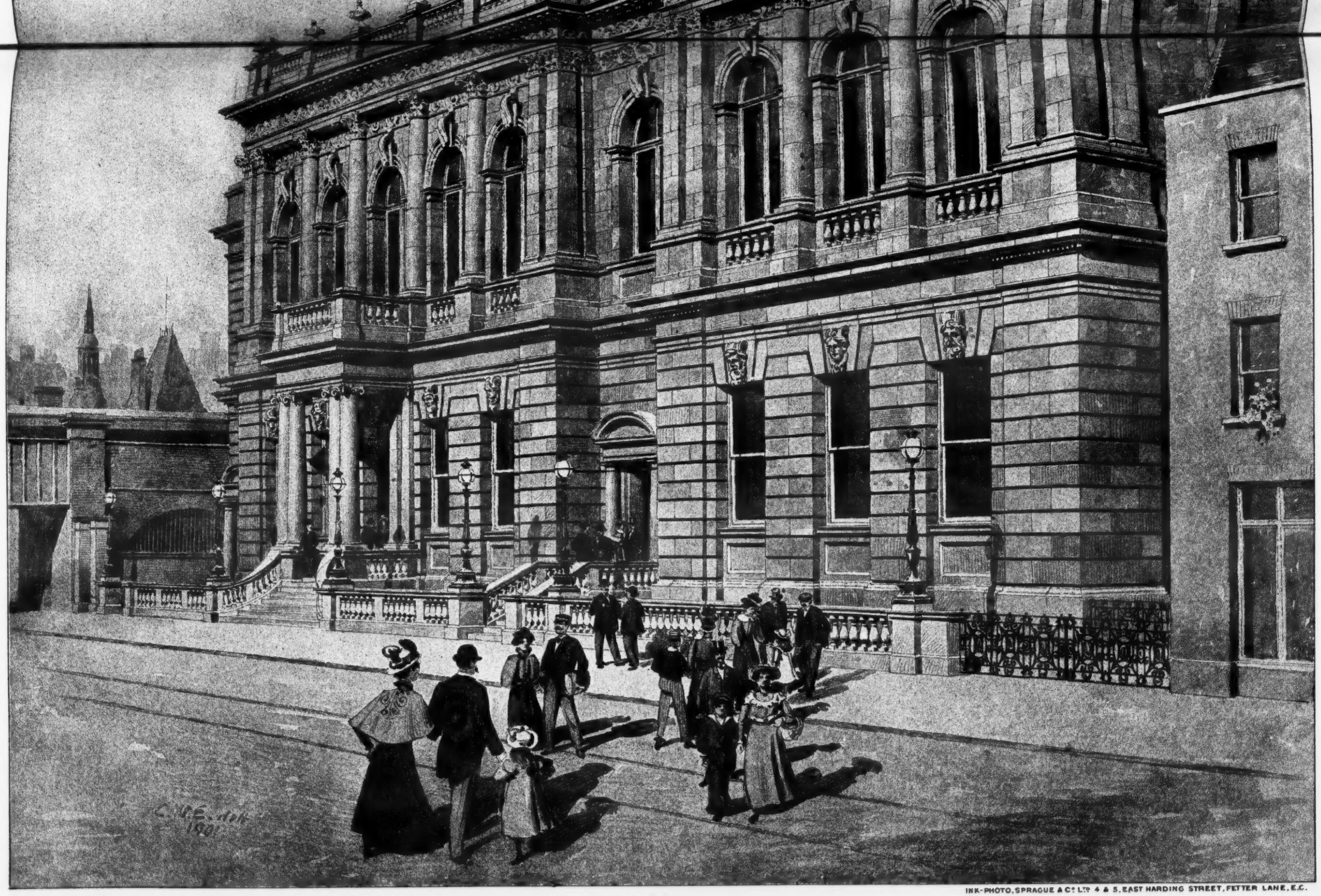

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